

# THE JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

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[Authors alone are responsible for the contents of their respective Papers.]

## SECRETARY'S NOTES.

1. *New Members.*—The following officers became members of the Institution during the month of January :—

Lieutenant R. Collins, R.N.  
Captain A. A. Montgomery, R.F.A.  
Lieutenant G. M. Keane, R.N.  
Second Lieutenant H. D. Saward, Royal Scots.  
Captain A. E. Glasgow, Royal Sussex Regiment.  
Colonel W. C. Horsley, 20th Middlesex V.R.  
Colonel F. P. Lousada, C.B., late York and Lancaster Regiment.  
Lieutenant J. B. Waterlow, R.N.  
Lieut.-Colonel R. B. Gaisford, Royal Fusiliers.  
Captain F. C. Tanner, Lancashire Fusiliers.  
Major E. S. Burder, Duke of Cornwall's Light Infantry.  
Lieut.-Colonel W. H. Duffin, Royal Lancaster Regiment.  
Captain E. F. Ward, King's Royal Rifle Corps.  
Captain H. A. V. Cummins, Indian Army.  
Lieutenant C. Mitchell, 5th Battalion Northumberland Fusiliers.  
Captain M. J. D. Cockle, late 4th Battalion Border Regiment.  
Lieutenant E. P. Woodward, Indian Army.  
Major F. H. Coleridge, D.S.O., Loyal North Lancashire Regiment.  
Captain W. O. Boothby, R.N.  
Major K. Chesney, Indian Army.  
Captain R. A. Berners, Royal Welsh Fusiliers.  
Lieutenant J. Duberly, Royal Berkshire Regiment.  
Lieutenant A. B. Wilkie, Royal Sussex Regiment.  
Captain Hon H. Dawnay, D.S.O., Rifle Brigade.  
Colonel Hon. O. V. G. A. Lumley, late 11th Hussars.  
Captain W. J. St. J. Harvey, Royal Highlanders.  
Lieutenant C. H. Mortimer, R.G.A.

[No officer of the Royal Naval Reserve or Imperial Yeomanry joined the Institution during the month.]

2. *Anniversary Meeting.*—The anniversary meeting will take place at 4 p.m. on Tuesday, 7th March.

*Vacancies on Council.*—The following are the names of the candidates nominated for the vacancies on the Council :—

### Naval (4 Vacancies).

Admiral Sir Robert H. Harris, K.C.B., K.C.M.G. (President of the Royal Naval College, Greenwich).  
Vice-Admiral William F. S. Mann (retired).  
Captain Arthur M. Field, R.N., Hydrographer of the Navy.  
Captain Charles L. Ottley, M.V.O., R.N., Director of Naval Intelligence.  
Captain Edmund J. W. Slade, M.V.O., R.N., Captain of the Royal Naval College, Greenwich.  
Captain George A. Ballard, R.N., Assistant Director of Naval Intelligence (for re-election).

*Military (Regular Army) (4 Vacancies).*

Field-Marshal Earl Roberts, H.C., K.G., etc.

General Lord William Seymour, K.C.V.O.

General E. H. Clive (retired).

Major-General Sir George Marshall, K.C.B. (retired), (for re-election).

Major-General R. S. S. Baden-Powell, C.B., Inspector of Cavalry.

Colonel Sir H. S. Rawlinson, Bart., C.B., Commandant, Staff College.

*Military (Militia) (1 Vacancy).*

Colonel the Duke of Bedford, K.G., Commanding 3rd Battalion the Bedfordshire Regiment.

*Military (Volunteers) (1 Vacancy).*

Lieut.-Colonel C. E. H. Hobhouse, M.P., Commanding 3rd V.B. the Gloucestershire Regiment.

3. *Centenary Nelson Exhibition.*—The Lords Commissioners of the Admiralty have kindly consented to transfer the Nelson Relics now at Greenwich for the Special Nelson Exhibition, to be held from 1st May to 31st October. A considerable number of Relics have been promised by private owners, and the collection on this occasion should be very complete. It must be understood that the Exhibition is to be one of Nelson Relics only, and is in no way to be connected with the one to be held at Earl's Court.

4. *Report of Special Committees.*—The Council have authorised the following suggestions by the Special Naval and Military Committees for extending the usefulness of the Institution to officers of the Navy, Army, Indian and Colonial Forces:—

- a. That the Institution should undertake the purchase on payment for members of professional naval and military works, periodicals, maps, etc., and when applied to should recommend books on special subjects.
- b. That a Notes and Queries Department be initiated for the use of members. The notes and queries to appear in the JOURNAL.
- c. That the library lending subscription to naval, Indian, and Colonial officers at home on leave be reduced to five shillings for six months, and that books be lent to officers, subscribing to the Library, serving in His Majesty's ships while in home waters; and in naval and marine depôts, it being understood that books are to be returned before ships leave for abroad.
- d. That a new catalogue be printed and issued to all officers' messes and Service Clubs. That the books which cannot be issued on loan should be clearly marked in the catalogue, it being understood that all books not so marked are available for issue.
- e. That the rules of the lending library be inserted quarterly in the JOURNAL.
- f. That the Director of Staff Duties, War Office, and the Director of Military Education in India be communicated with, asking for suggestions in this matter.
- g. THAT A NOTICE BE PLACED IN A VERY PROMINENT POSITION IN THE JOURNAL, ASKING FOR SUGGESTIONS FROM MEMBERS.

With reference to g, the Secretary will be glad to receive suggestions.

5. *General.*—The Council have decided to hold a Reception in the Museum in the month of June. A Special Committee has been appointed to consider the details, which will be published in due course.

6. It would be a very great convenience to the staff of the Institution if members, when corresponding, would kindly print their names after their signatures, as is done in the case of official correspondence in India.

7. *Officers' Libraries.*—"The 20 Best Military Books for an Officer's Portable Library."

The dearth of professional works at many stations, the expense of buying them, and the impossibility for an officer frequently on the move to carry about with him a library as part of his kit are admitted facts; and more than one officer has desired information as to the best works, not exceeding altogether in number twenty volumes, which might form an officer's portable library. It is suggested, therefore, that lists of these works should be sent by officers acquainted with military literature to the Secretary of the Institution; these lists would then be compared, and the result of the comparison would be given in these notes.

The lists should be furnished as follows:—

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|---------------------------|--|
| a. For officers generally | } Works in English, either originals<br>or translations. |
| b. For artillery officers |  |
| c. For cavalry officers   |  |

Lists also to be supplied for officers who read French or German or both.

8. *Special Military Essay.*—Through the generosity of a member of the Institution, the Council are able to offer a Prize of one hundred guineas for the best Essay written on the following subject:—"The best, least irksome, and least costly method of securing the male able-bodied youth of this country for service in the Regular and Auxiliary Forces as existing."

The amount of the second prize, together with further details, will be announced in due course. This Essay is in addition to the ordinary 1905 Military Essay of the Institution.

9. *Museum.*—The following exhibits have been added to the Museum during the past month:—

- a. A collection of officers' shako and helmet plates, and belt buckles of Line and Militia Regiments prior to 1881.
- b. A collection of Franklin relics, being the first traces of the Franklin Expedition, found by Admiral Sir Erasmus Ommanney, K.C.B. (Given by Lady Ommanney.)
- c. A gold box of King Charles I., with two gold medals struck to commemorate the "Dominion of the Seas" in 1630. (Lent by P. Berney Ficklin, Esq.)
- d. The Union Flag which was flying over the headquarters of Colonel Baden-Powell at Mafeking during the siege, together with a plan of the defences. (Lent by Colonel C. B. Vyvyan.)
- e. A collection of dress sabretaches. (Given by the Army Council.)

## THE LANCE AS A CAVALRY WEAPON.

*By Lieut.-Colonel C. B. MAYNE, R.E.*

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Thursday, 24th November, 1904.

Lieut.-General Sir H. C. WILKINSON, K.C.B. (Colonel 4th Dragoon Guards), in the Chair.

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BY Army Order 39, of March, 1903, the lance was abolished as a part of the war armament of British cavalry. A certain number of lances, however, are allowed to each cavalry regiment in order to make the men familiar with the appearance and use of a weapon against which they may some day be pitted, and so more able to oppose it; and also to teach the troop horses to go up to men armed with lances, which many will not do at first. But for war purposes our cavalry is to be armed with sword and firearm. The reasons for the Army Order were given at some length in an official memorandum issued about the same time. This official memorandum gave rise to a flood of adverse criticism, as striking at the proud traditions of our cavalry, as being a bit of special pleading in which the conclusions were not borne out by the evidence adduced, and as failing to grasp the true idea and spirit of cavalry action. Although, as will be seen, I am not an advocate of the lance, it is only on account of the underlying tactical principles involved that I, who have not the honour of serving as a cavalry officer, have ventured to offer certain views in support of my opposition to the lance for your consideration and discussion. I feel no compunction in doing this because all the arms of the Service have a right to express an opinion as to the use to which any one particular arm is to be put, and as to the manner of its employment for the purposes of war. Of course, this statement only applies to the more general considerations affecting each arm; but it arises out of the fact that an army in the field is an organism with such closely and mutually inter-related parts that they cannot ignore each other, or work, in fact, by themselves without weakening the efficiency of the whole as a striking force, even if such

\* was never carried out

independent action does not lead to disaster. Thus I do not intend to deal with any detailed matters as regards the manipulation of cavalry weapons, but only with the broader questions and principles of the employment of the cavalry arm in the field, and from which the minor question of armament must follow.

The argument that I am presenting to you to-day was committed to paper in April, 1903, nearly a year before the issue of *Cavalry Training*, 1904. The more I study this manual the more I feel that our cavalry must congratulate itself on the triumph it marks of the cavalry over the mounted infantry idea. The very preface—so absolutely contrary in tone and spirit to the prefaces of our other training books—is a plain acknowledgment of this triumph by its pleading for the book to be read in a mounted infantry spirit. The long reviews of *Cavalry Training* that appeared in *The Times* of the 2nd and 9th June, 1904, were evidently intended to secure a mounted infantry interpretation of this book, though such an interpretation is absolutely contrary to the whole tone and spirit of the book. Our *Cavalry Training* thoroughly recognises the value of opportune cavalry charges, even in masses, and legislates for our regiments being trained to execute them with vigour, while, at the same time, the whole question of the relation between dismounted and mounted action is most judiciously dealt with. I am glad to dwell on this, for when the following remarks were first penned, over a year ago, they were opposed to the trend of official pronouncements, whereas I now have them in support of my contentions.

The uses of cavalry in the field may be classified as follows:—

1. Scouting and reconnaissances.
2. Skirmishing on foot or when mounted.
3. The charge in battle.
4. The conduct (or warding off) of pursuits.

The lance is avowedly a weapon for the charge, and so the question of its usefulness or desirability can only apply to the two last-named uses of cavalry. The lance is also admittedly of little use in a *mêlée*, and a long list of writers can be given who, in consequence of this, have advocated either the lance for the front rank only and swords for the supporting rear ranks, or that "lancer" regiments should be closely supported by "sword" regiments. The lance has only been of use in skirmishing when used by races (such as the various Cossack tribes and the kindred Poles) accustomed from childhood to its use and to riding, and whose horses had also been specially trained to the weapon and its use. Moreover, these races were opposed to fire weapons which were practically harmless except at a very few yards' range. But even then, with all these conditions in their favour, these "lancer" races failed before equally good horsemen and horses who were not afraid to charge home at speed, sword in hand. For example, the Line Cossacks had to give up their lances and take to the sword in order to compete with the Circassians, who invariably defeated them until the change was made. The Cossack and Polish lancers, from whom the Western nations in Europe have borrowed the lance as a cavalry weapon, were essentially irregular light corps, whose speciality was scouting, skirmishing, and plundering, and who only attacked small detached parties of the enemy in days when exposure at short ranges did not mean pretty certain death. However, it has been

fully recognised that in the face of modern rifles and smokeless ammunition the lance nowadays is a serious encumbrance during scouting and skirmishing work.

The lance, after a long period of disuse in Western Europe, only came into use again in this part of the world during the 19th century owing to the rôle played by the Cossacks and Poles, during the later Napoleonic campaigns, in the irregular warfare that was their *métier*. But a very slight investigation will show that the great services rendered by these irregular light corps were due more to the intelligence of the men and the training of their horses than to the mere weapons carried by the men. Indeed, the Turkish cavalry (which for many long years was the best cavalry in the world) and their successful imitators, the Hungarian Hussars—both irregular light corps, but armed with the sword—performed equally valuable services for their own Armies. The lance was only introduced into the British service after the Battle of Waterloo, long after the brilliant traditions of our cavalry had been formed, and its most daring exploits made matters of history.

The sole question nowadays is the advantage of the lance in the charge and in the pursuit. It is a positive disadvantage to cavalry when scouting and skirmishing. But the chief claims made for the lance is its moral effect as a charging weapon and its power of reaching to the ground as a pursuing weapon. Hence it may be asked whether it cannot be kept as the armament of certain cavalry corps who would, as far as possible, be kept back either for executing decisive charges in battle or for the pursuit. I may here say that I am a firm believer in the truth that the day of effective cavalry charges is not over, provided that the cavalry arm is correctly used. In the *Journal of the United Service Institution of India* a paper of mine was published in 1902 on the relative rôles of cavalry and mounted infantry, in which I strongly insisted not only on the possibility of the use of shock tactics by cavalry under modern conditions of war, but also on its desirability for securing decisive results when deemed feasible on account of the enormous moral and physical results that are to be derived from it. That we did so little with our cavalry in South Africa is due to the fact that the proportion of cavalry proper to infantry was about one-twenty-eighth instead of one-fourth, as it should have been. But supposing we have a full proportion of cavalry, can they hope to find opportunities for effective charges under the conditions of modern warfare? Evidence was given to the Royal Commission on the War in South Africa that after half an hour's firing, the efficacy of our fire so fell off that the Boers did not mind it much. And in the present war in Manchuria the infantry fire of both sides, in the prolonged fire fights that have taken place there, has in the end been so ineffective as to allow of bayonet fighting by masses to take place. If this was done by slow-moving infantry, it could also have been done by mobile cavalry, had the occasions been suitable for the use of cavalry. It stands to reason that if a man has to lift his rifle to his shoulder 100 or 200 times his fire must become one of purely chance hitting from sheer physical fatigue. Even with our new shorter and lighter rifle there is the same physical fatigue entailed, because its reduction in weight has largely increased the recoil. For this reason I have pleaded, even with high authority, for the early introduction into our Services of an automatic-loading rifle that need be

only raised and lowered 10 times for each 100 shots fired.<sup>1</sup> Not only would the physical fatigue be proportionately lessened, but still more so by the absence of recoil which would be taken up to work the mechanism of the rifle, while the accuracy and observation of the shooting would be greatly enhanced. But, as matters are, men must shoot badly after firing for half-an-hour or so, and nowadays bullets are used that will not stop a horse,<sup>2</sup> unless it is struck in a vital spot or by a considerable number of bullets at once, as from a machine gun or a concentrated volley. The French and Japanese have adopted, without protest, a copper-covered bullet that flattens on impact — the much-abused Dum-Dum principle under another form. Whether this bullet will stop horses has yet to be seen, but it does not get over the fact of a more or less harmless fire from physical fatigue. And some four incidents in the Boer war—Sir John French's ride in mass to Kimberley, De Wet's ride in mass through our lines at Springhaan Pass, and the successful Boer charges on Lord Methuen's and Colonel Benson's columns—show that, even under modern infantry fire, charging horsemen can reasonably hope to reach their objective without undue losses. At Tweebosch, some 400 Regular infantry, in good order and full of fight, could not stop the Boer horsemen with the 37,000 rounds they fired; indeed, owing to the physical exertion of raising and lowering the rifle rapidly, and the inaccurate aiming it entailed, very few Boers or horses were hit.<sup>3</sup> Of course, every cavalry charge involves an enormous risk, as so many "accidents" can contribute to its failure, but in advocating the possibility and desirability of cavalry charges, I presuppose that a real tactical decision of sufficient importance to influence the fight as a whole and worthy of the risks are kept in view, and that the strength of the cavalry is not to be frittered away in small charges that will not produce any real effect on the issue of the battle one way or the other. It is these useless affairs that bring discredit on cavalry charges.

But coming back to the question of whether certain portions of the cavalry force with an Army in the field should not retain the lance for charging and pursuing purposes, it may be said that nowadays it is essential that *all* cavalry should be capable of performing, when necessary, all the four classes of duties that I have already mentioned, and should, therefore, all have a good firearm. If *all* may be called on to scout and skirmish, then lances are a disadvantage; but even then the supposed advantages of the lance in charging

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<sup>1</sup> See Appendix.

<sup>2</sup> As a matter of fact, our men should be taught to spare horses as far as possible, while disabling their riders. Every horse is of value in war. Napoleon I. often issued orders for expeditions to cut off hostile cavalry simply for the sake of the horses, and the men were paid the value of the horses captured as an inducement for them to spare and capture all the horses possible.

<sup>3</sup> The losses inflicted during the present Russo-Japanese War, when analysed and estimated *per day*, appear to be relatively small. The casualty returns of the battle of Gravelotte on the 18th August, 1870 appear to be equal to those of about 10 days' heavy fighting in Manchuria.

and pursuing may be great enough to outweigh its admitted disadvantages in scouting and skirmishing. In reply to this, it may be pointed out: (1) That by far the greater part of cavalry work in the field is its strategic use in scouting and skirmishing,<sup>1</sup> either with or without the co-operation of mounted infantry; and (2) That the charge in battle, supposing, of course, that a successful charge is possible, is far more dependent for success on the mass (including reserves), order, speed, mobility, and direction of the charging body than on the weapons held in the hands of the men. The first of these two points is abundantly self-evident, and is conceded by *Cavalry Training*; the second point only requires proof.

In attempting to prove that the charge is more dependent on the manner of its execution than on the armament of the men making it—that is to say, that the horse is the true weapon of cavalry in a charge home—the difficulty is to present shortly and concisely the overwhelming mass of evidence that comes to hand in almost every war. We need not commence further back than the 17th century, when firearms, in spite of their crudeness, became an established and controlling factor in war. We have first the Thirty Years' War, in which the shock power of cavalry, after a long period of decadence, was once more raised to its proper place by Gustavus Adolphus by the simple means of making a proper use of it. Up to his day cavalry were so overburdened with defensive armour (made heavy enough to resist the projectiles of the firearms in use) and were grouped in such cumbrous masses as to deprive them of all rapidity and ease of movement. Hence the trot had become the pace of cavalry, and the pistol the cavalry weapon. This system had, however, already failed before when pitted against the irregular light cavalry and dragoons who took their rise in the 16th century, and who charged home sword in hand, even though they did so in loose order. Some of these light troops had lances, though they were not used in the *mêlée*, but the men were lightly armed, skilled in the use of the sword, and mounted on active, well-trained horses.

The value of cavalry in battle for obtaining decisive results at the critical moment of a battle was early appreciated by the great military reformer, Gustavus Adolphus, King of Sweden. He abolished large and unwieldy squadrons in favour of mobile regiments, composed of 8 small and handy troops, and, arming his men with sword and pistol, he ordered them to ride boldly up to the enemy, fire a single volley, and then dash in, sword in hand, with reserves in support. He depended for victory on the shock of charging closed masses, and on the keen edge of the sword in the *mêlée*. Furthermore, he made every endeavour to obtain a combined use of all arms, so that, when possible, his cavalry should charge an enemy already shaken by gun and musket fire. The most successful opponent on the Imperial side to the great Swedish king was the fiery Pappenheim, who also sought for shock results, as Gustavus did, by means of mobile, closed masses of cavalry moving at speed, and launched forth at the right moment.

The Civil War in England was marked by the most brilliant use of cavalry by both Prince Rupert and Cromwell, both of whom were bold in action, but the former impetuous, and the latter prudent.

<sup>1</sup> See pp. 195 to 200, *Cavalry Training*, 1904.

The sword and firearm were the only cavalry weapons of the day in England, and results were sought for and obtained by mobile closed masses moving at speed with reserves close at hand, and by following up a first success with a strong and vigorous pursuit. Cromwell strongly discouraged the *mêlée*; he relied on rapid rallying after the shock and charging again. At the battle of Dunbar, 1650, the Scotch cavalry used lances, and in describing the battle, Cromwell wrote:—"But here on the right their horse with lances in the front rank charge desperately; drive us back across the hollow of the rivulet; back a little; but the Lord gives us courage, and we storm home again, horse and foot, upon them, with a shock like a tornado tempest; break them, beat them, drive them all adrift." Thus it was the men and leadership, and not the weapon, that won. As a matter of fact, most of Cromwell's chief officers had served in the Thirty Years' War, and so had learnt the methods of Gustavus and Pappenheim.

During the latter part of the 17th century there was a decadence of the cavalry spirit for shock tactics, and a revival of armour and slow paces, involving a greater reliance on the firearm. This may be partly accounted for by the want of good leaders, for as soon as such arose—*e.g.*, Condé, Turenne, and Luxemburg, men who had not forgotten the teachings of Gustavus and Pappenheim—great successes were once more won by a bold and vigorous use of mobile cavalry charging home at speed, sword in hand, especially on the flanks and rear of the enemy. By this time the lance had disappeared from among all the European nations west of semi-savage Russia. The most prominent German general during the later part of the 17th century was Monticuculli. His cavalry were protected by armour and armed with sword and firearms. He has often been quoted of late as a great authority in favour of the lance as a cavalry weapon. He called the lance "the queen of weapons." But in expressing this opinion he further stated that lancers should be well and closely supported by heavy cavalry armed with swords, and that they should be powerful men, dressed in armour, and mounted on first-class horses. He also added that the ground on which they should operate should be level, firm, and unobstructed. And he concludes by stating that unless all these conditions obtained the lance was useless! Those who quote Monticuculli might take the trouble to read first what he said, and not take a sentence of his from its context. Of dragoons, he said that they are still infantry—to whom horses have been given to enable them to move more rapidly—a useful hint for mounted infantry corps to bear in mind.

In the 18th century we have Marlborough, Prince Eugene, Charles XII. of Sweden, and Frederic the Great, with his great cavalry generals Seidlitz and Ziethen, all winning great and world-renowned battles by a bold and vigorous use of cavalry masses armed with sword and firearm only. Charles XII. abolished defensive armour for his cavalry in order to increase their capacity for speed and endurance; he forbade the use of firearms on horseback, and ordered the use of the sword only, which was a long and straight weapon. Peter the Great of Russia went in largely for dragoons armed with sword and musket, though he relied on his Cossacks for the execution of outpost and detached services. The French leader, Marshal Saxe (a son of the King of Poland), though he had no lancers, and evidently

from a racial regard for the weapon, advocated the reintroduction of a 12-foot lance as part of the armament of the front rank of heavy cavalry, who were also to wear defensive armour and carry swords and carbines in addition. This heavy cavalry were only to be used for the charge in battle, the light cavalry service being carried out by dragoons, who were to be lightly equipped, in order to better endure fatigue and make rapid marches. He also advocated the final charge being made at speed and in close order, and he held that cavalry should be taught to gallop at least a mile in good order. Frederic the Great of Prussia adopted Marshal Saxe's ideas as to the method of conducting cavalry charges, but not as to the armament of cavalry. All his cavalry were armed with the sword, and relied alone for victory on the charge at speed in closed masses. To this end every effort was directed at lightening the equipment and armament of the men, and at enabling them to move more rapidly, though in good order, over every kind of ground. Frederic was ably seconded by his great cavalry generals, Seidlitz and Ziethen, and out of the 22 great battles fought by him his mounted swordsmen won at least 15 of them. The secret of his success lay in the careful training of both the individual soldier and horse as the foundation of and preparation for rapid manœuvring and fighting in enormous mobile masses, and in which they were constantly practised. But, like Cromwell, his great cavalry generals combined prudent judgment with fiery energy. The Prussian cavalry consisted of cuirassiers, dragoons, and hussars, all armed with sword and firearm, the hussars being used for scouting, outposts, and other detached duties that entailed the scattering of the cavalry into small parties. The mistake that Frederic made was that his cavalry were far less well trained in these latter duties than in manœuvring and charging in large masses in battle. The Austrian cavalry, on the other hand, were less well trained in charging, and were unable to withstand the impetuous onrush of the Prussian squadrons, but they were so splendidly trained in scouting and detached duties as to most seriously harass Frederic at times by their extraordinary vigilance and activity. They invariably cut his communications, seized his messengers, letters, and patrols, and prevented his getting forage and provisions. The Austrians had but few lancers at this time—only 8 squadrons out of 226. If the lance had any intrinsic value as a cavalry weapon in these days of close and shock tactics, it would surely have had a more adequate recognition than this. If Frederic had been better served by his own light cavalry his successes would have had greater results, and he would not have placed his Army so often in such dangerous situations as he did do, and from which he only extricated himself by possessing a relatively greater tactical ability than the generals opposed to him.

The Russian regular cavalry towards the end of the 18th century copied the Prussian cavalry of the day, but they also had in their Cossacks an irregular body of invaluable horsemen armed with lance, sword, and firearm, and very efficient in carrying out detached services. The French cavalry of the same period were armed with sword and firearm only, but their horses were far too heavily loaded for mobility, though they were trained to carry out both detached services and charges in battle as far as possible. At the outbreak of the French Revolution, the Prussian cavalry had retrograded as regards collective action in large masses, though they showed that they could

still hold their own in small fights, proving how much depends on the cavalry commander.

Now, in all the fierce and almost continuous fighting of the 17th and 18th centuries, when everything was in favour of the cavalry arm, and presumably of the lance also, none of the great Western nations of Europe made any effort to make use of the lance as a cavalry weapon, although they must have been fully cognisant of its supposed advantages and disadvantages.

Coming to the 19th century, Napoleon I. never failed to show his high appreciation of the services that could be rendered by cavalry in all phases of its duty. No one knew better than he did of the importance of light cavalry for covering the movements of an army, for searching out the designs of the enemy, and for watching the progress and direction of his marches. But he was equally impressed with the value of cavalry used in large mobile masses on the battle-field for the purpose of turning the scale of victory, when it was wavering in the balance, and for executing vigorous pursuits, by the mere force of numbers and impetuosity of movement. In this latter respect, however, his cavalry were not so well trained as those of Frederic the Great. He had not time in his constant wars to give the personal attention required to reach the latter's high standard. But, on the other hand, he succeeded in making his cavalry more useful in every phase of its duty than Frederic did. Up to 1812 Napoleon was almost always well informed about his enemy by his cavalry, and it was only after the disastrous Russian campaign of that year, during which the mass of his trained cavalry was either destroyed or captured during the retreat, that he failed in this particular. It was in consequence of this that in 1813 he was surprised at Lützen into a general action, for his new cavalry, inefficient as regards both numbers and experience, left him in complete ignorance of the proximity of the Allies. Napoleon recognised the weakness of his newly-raised cavalry in manœuvring capacity on the battle-field, and endeavoured, with considerable success, to make up for it by the use of overwhelming numbers moving at the trot, at which pace alone could imperfectly trained men preserve order when moving in masses. The French dragoons acquired a very high reputation in the guerilla war in Spain, as the Duke of Wellington himself acknowledged.

During his campaigns in Eastern Germany, Napoleon had come in contact with the irregular lancer corps of Poland and Russia, and he considered it necessary to raise similar corps for the express purpose of opposing them in their own peculiar manner of warfare, because for such duties his regular cavalry had proved itself incapable. So in 1807 he raised his first regiment of Polish lancers. Two more were raised in 1810 and 1812. And in 1811, just before his entry into his fatal Russian campaign, he converted 9 of his dragoon regiments, that had done so well in Spain in detached duties, into lancer corps, but they were quite unable to effect anything of real tactical value against the more highly trained Cossacks opposed to them. These Cossacks so successfully cut off all detached parties that the French cavalry were soon only able to move in safety in relatively large groups. It was in the Russian campaign of 1806-7 that Napoleon felt, for the first time, the difficulty of carrying on a campaign against a nation whose armies were covered by such an efficient light cavalry as the Cossacks of that

day. After Eylau his messengers and foraging parties were as completely cut off as Frederic's had been by the Austrian hussars. This shows that armament has very little to say in the matter so far as detached duties are concerned.

It is impossible in the short time at my disposal to give any detailed account of the magnificent services performed by Napoleon's cavalry, armed with sword and firearm only, at Marengo, Ulm, Austerlitz, Jena, Eylau, Eckmühl, Wagram, Dresden, Leipsig, Waterloo, and other battles. The pursuit after Jena, that broke up the Prussian power, was conducted by intrepid swordsmen led by an impetuous leader; the Austrian and Prussian cavaliers were so badly used even in 1813 and 1814, that even Napoleon's newly raised regiments were generally able to defeat them. At Lützen the Allied cavalry, though having a great superiority in numbers, remained idle spectators while their infantry were driven back. The British cavalry in Spain and in Belgium, though armed with the sword, covered themselves with glory. The records of the cavalry swordsmen of the German Legion in Spain is a most noble and enviable one; they were true cavalry in every sense of the word. The British heavy brigades that charged so recklessly and victoriously at Waterloo were driven back when exhausted and disordered by French lancers, but these in turn were attacked and driven off by our light cavalry swordsmen. In the final advance at Waterloo a British hussar regiment successfully attacked a French lancer regiment. In the retreat from Quatre Bras, a British hussar regiment was checked in the streets of Genappe by a line of French lancers jammed up close together, but, after holding their own for a while, they were ordered to retire, and a little later a regiment of our Life Guards (without cuirasses) went at the French lancers sword in hand as they came out of the village and drove them back in headlong rout.

In 1828 the lance was introduced in Russia for the front rank of all cavalry regiments, but it has since then been abolished. In 1870-71 much was heard of the German lancers as light cavalry; but on the other hand the French cavalry were very badly used. Yet the great cavalry charges that did take place in that war were indecisive as regards tactical results, and the lance in no way showed any tactical superiority over the sword. However, long after the war the Germans adopted the lance for all their cavalry, while the Russians, even after their experiences of 1877-78, have not favoured the reintroduction of this weapon. In the present Russo-Japanese war the lance has not yet in any way shown itself as tactically superior to the sword. When some of our guns were temporarily lost near Cabul in the Afghan war of 1878-1880, the escort of 3 squadrons of lancers produced very little, if any, effect on the advancing enemy, who simply lay down and were missed, like a tent-peg is missed, by our lancers moving at speed. Jomini gives it as his opinion that lancers should move at the trot in the charge. I do not think that anyone could justly assert that swordsmen could not have done just as well as lancers at Chakdara (1895), Shabkadr (1897), Omdurman (1898), Elands-laagte (1899), and in the ride to Kimberley (1900). At Futtéabad (1879) our pursuing swordsmen of the Guide Corps did as good work as any lancers could have hoped to do. As regards our earlier Indian experiences, I would draw attention to Captain Nolan's work on "Cavalry: Its History and Tactics" (1853); and though he makes statements on

certain matters that cannot be substantiated, yet he clearly shows that it is the use of cavalry (i.e., of the men and horses composing it) and not merely its armament that is of value, and that, as stated by Guibert, speed is the essential thing in a cavalry charge. Nolan pleads for sharp swords and a double rank formation. On the other hand, Beamish, a contemporary of Nolan's, in his work "On the Uses and Application of Cavalry in War" (1855), is an advocate of the lance and single rank; but the value of his opinions is reduced by the fact that he bases them chiefly on small engagements that would have little or no real effect on the course of a war or a large decisive battle. Beamish is a very partial writer. After describing the battle of Aliwal, he states that "such an exploit could never have been achieved by cavalry who placed their dependence upon the carbine or the sabre, for with such weapons the artillerymen could not have been easily reached, and, as has occurred upon other occasions, they would probably have resumed their stations at the guns and continued their fire." Yet a few pages further on he states, most inconsistently, yet with truth, "At Moodkee and Ferozkah, as subsequently at Aliwal, the triumph over artillery was obtained by cavalry." These cavalry were swordsmen; and he goes on to describe the gallant feats they performed in breaking up the enemy, sabring the gunners, and spiking the guns, as was done later by lancers at Aliwal. But Beamish was an extreme advocate for the lance, and was blind to facts that did not agree with his predilections. And there is no denying the fact that the gallant deeds which have built up our great cavalry traditions in the past have been for the greater part done by swordsmen, though there are a few cases in which the lancers, wherever they have been used, have added to those traditions; but even in such cases it has been by the use of the men and horses, and not by the weapons that they had in their hands. It is the use of cavalry *in masses* that is decisive in battle, and it is the decision that we should work for.

From all the long review that history gives us of the employment of cavalry in war, I would ask this question: Why, if the lance has the great value that its advocates claim for it, has not this value stood out as a marked factor in war, clear and indisputable? As a matter of fact, all the grand traditions of cavalry, including our own, have been made by swordsmen, and not by lancers. It is the training and leadership of both men and horses that have produced the great tactical and strategical results of history, and not the weapon carried by the men. Seidlitz, Frederic's great cavalry leader, was very strong on the principle that a cavalryman should put his horse on top of his enemy. He wrote:—"In the charge it is a matter of indifference what weapon the soldier carries. The chief thing is that he should be well mounted, and that he should bear in mind the unshakable resolution to ride the enemy down with his horse's breast. In the *mêlée* the sword and mace are the only weapons practicable." This principle of using the horse as the cavalryman's true weapon is now enforced in our *Cavalry Training*, I am glad to see.<sup>1</sup> This use of the horse, combined with speed and with mobility in mass, forms the essence of a victorious charge, and the Russians are very wise in accustoming their horses to ride at speed into dummy figures and

<sup>1</sup> Vide pp. 133, 202, and 206.

through extended infantry and cavalry, instead of training their horses to pull up at 100 yards or so in front of their objective. This Russian practice has also been introduced into our *Cavalry Training*. In Field-Marshal Sir Evelyn Wood's "Cavalry in the Waterloo Campaign" we frequently read of cavalry opening out and passing to one side of their objective, instead of hurling themselves on to it, and we also read again and again of lancers and swordsmen being alternately successful against each other, the fate of each several action being decided by one or more of the numerous commanding factors that affect the issue of a charge and never once by the mere weapon used by the victors. And hence to put down the value of cavalry to its weapons is to strike at a most vital principle of that essential arm. If, in all wars, the lance had stood out above the sword as the needle gun did over the muzzle-loading rifle in 1866, or as smokeless cordite has done of late years over black powder, then a good case would exist for the lance. But no such predominance has ever been shown by the lance in charging in battle, while it is a positive disadvantage for the scouting and other detached duties that nowadays form the main part of all cavalry work in the field, and in which every kind of cavalry must be ready to take its part. Some have tried to make much of the pursuit of the Boers after Elands-laagte by our lancers, but I venture to assert that equally good results would have been obtained by swordsmen. To me the question is not one of lance *versus* sword, but of lance *versus* revolver. At Tweebosch, the Boers, under De la Rey, boldly and manfully charged our men, and while endeavouring to put their horses on them, used their rifles as pistols during this charge.<sup>1</sup> This is only another example that the horse and not the hand arm is the true charging weapon. It is not necessary to consider at the present minute the question of the revolver as a cavalry weapon, but a more suitable pattern of sword than we have had in the past has, I believe, been determined on.

In making the foregoing remarks, I must ask you to bear in mind that I have had in view cavalry that have been regularly enlisted and trained with the colours for a considerable time. Any other kind of cavalry (such as Colonial and Yeomanry corps) should, I think, be considered and treated as mounted riflemen, but, at the same time, I would plead for an extensive use of such mounted riflemen for all scouting and other detached duties that formed the essential work of the "light cavalry" of bygone days. Regular cavalry are expensive to raise, and take long to train effectively, and hence, though being trained to the highest degree possible in scouting and skirmishing duties, they should be saved as much as possible for the day of battle and pursuit. Mounted riflemen may not be able to scout as well as regular cavalry, but their want of individual skill can be made up for by numbers—that is, by flooding the front of operations with the cheaper, light, mobile rifle corps, who will report the presence of the enemy by mere contact.

As regards the question of saving cavalry for decisive shock action on the day of battle, we have heard of late years from many writers that the day of cavalry charges has passed away, owing to the destructive power of modern artillery and infantry weapons. In reply to this,

<sup>1</sup> Such a use of the rifle as a revolver will be much facilitated by the introduction of automatic loading.

I may say that every war during the last three centuries has shown that, even as in the days of muzzle-loading matchlocks and flintlocks, cavalry can be annihilated by infantry and artillery fire when they have charged at the wrong time and place—that is, if they did not charge either after the enemy had been sufficiently demoralized by fire, or when he could be taken by surprise before he could use his firearms, or when he had no ammunition left, etc. Instances of this occur again and again, and yet it was never said at the time in those days that cavalry charges were no longer possible, but only that an error of judgment had been made. It is the same nowadays. The conditions for a successful cavalry charge remain identically the same to-day as during the past three centuries. And it must always be borne in mind that with the modern rapid-firing rifles cases may often occur, and did often occur in South Africa, of long infantry firing lines running out of ammunition for hours, and of the men becoming too fatigued to fire effectively even when they have ammunition to go on with. And here will be one of the many chances for cavalry in the future; indeed, the South African war showed that exhausted infantry firing lines can be charged at speed by cavalry with comparative safety, especially if the charge comes as a surprise. Given the trained man and horse as a unit, and the leaders of former days, the feats of these former days will again be repeated. The difficulty seems to be to get cavalry officers and umpires to believe this. Of late years cavalry have been so accustomed to be umpired out of action at peace manœuvres, and have been so often told that smokeless powder and magazine rifles have abolished their vocation as mounted men on the battle-field that they have somewhat come to acquiesce in this decision as final. But, as a matter of fact, nothing is more remote from the truth or the real facts of the case, and a revival of the historical doctrine of "the man and horse," used at speed and in closed but mobile masses, and at the right time and place, is the only real way to cure the present uncertainty of cavalry, in which false ideas of the power of infantry fire in battle has recently plunged it. I need hardly say that the "playing together," or the combined organic interdependent use of all the arms under the general's command, is also a pre-supposed condition for the successful use of cavalry shock action for bringing about a favourable decision. Nothing is more conducive to want of success than the isolated and independent use of each different arm, or fraction of an Army, in battle; it is the whole force that should fight as a unit, and not the different parts of it separately and without any tactical connection in their respective activities. Moreover, it may be added that cavalry should not be "wasted" on carrying out charges that cannot have, even if successful, any serious result on the issue of the battle. The tactical result to be gained, in its bearing on the fight as a whole, should be the deciding factor as to whether a cavalry charge should be made or not at any given period of a battle.

To secure these necessary elements for successful fighting, suitable training or manœuvre ground of sufficient extension are required. However perfect our Army may be on paper, it will enter into the next war as unprepared and as untrained as it did in South Africa, unless it is given the means of training itself in peace.

I have only touched on the uses of cavalry as affected by their armament. Consequently many vital questions affecting its strategi-

cal and tactical uses and the conditions for obtaining really decisive strategical and tactical results with cavalry have not been dealt with. All that I have endeavoured to show is that the true weapon of a cavalryman is his horse, that the historical hand weapons of cavalry are the sword and firearm, and, therefore, that the abolition of the lance, especially under the conditions of modern warfare, is a step in the right direction. The sword is for use in the charge at speed and in closed mobile masses, when suitable occasions arise for a great decision to be made by shock tactics, as they will do in any fight; on the other hand, for the greater part of the other duties of cavalry in war the firearm will be the weapon that will be made use of by the trooper.

The vast majority of those officers who in any way cultivated the art of sword-play, have always disliked the pattern of cavalry sword that has been hitherto in use. If we had more faithfully followed the fashions of our forefathers, who were essentially swordsmen, the sword would be much more in favour than it is now. A lance is of little or no tactical use if the men and horses are not individually highly trained to make the best of it, but, with the enormous wastage of horses that takes place in a campaign, how long can we ensure the supply of adequately trained horses? In this respect the swordsman has the advantage.

As a matter of fact, every success in which the lance has taken part, whether it be a charge or a pursuit, or an attack on a battery, etc., can be balanced by an equally good success of a similar character carried out by swordsmen. The great traditions of cavalry have been formed apart from the lance, the use of which practically disappeared 300 years ago in Western Europe, and which only gradually came into a very limited and partial use in the great wars of the last 100 years only. And during these wars there is nothing whatever to show any predominance of the lance over the sword as a victory-compelling weapon. Cases have been quoted where, in the Franco-German war, German swordsmen, being unable to deal with French carbineers who had been unhorsed and who took to using their carbines while lying on the ground, called out for lancers to come and aid them. But at that period of the war, German cavalry did not possess a firearm which they would otherwise have made use of. Such incidents do not form part of the charge, and have little or no effect on its tactical results, and they only point out the need for a firearm for cavalry, and not the necessity for the introduction of the lance. The same remarks apply to individual skill with hand weapons in the confusion of the *mêlée* that takes place after a charge. The cavalry contest near Mars-la-Tour on the 16th August, 1870, ended in the leaders of both sides calling their men off from a fruitless *mêlée*, in which relatively little damage was done and no tactical advantage gained by either side.

De Brack has often been quoted as an advocate of the lance. As a matter of fact, he, with all his wide experience, states that the sword is the hand weapon in which the trooper ought to place most confidence; but he admits that the lance has a powerful moral effect, and that its thrusts are very deadly. He is, however, speaking of detached warfare and petty actions, and his admission is somewhat weakened by a later admission, that he had seen men receive as many as 22 thrusts from Cossack lances without being laid up from active service, because the lance was not properly cared for. The sword, he says, should be kept sharp by means of files or ragstones, to be carried by

every trooper. A Cossack would range his pony so that his enemy would come to him from the left-front, and he would strike him with his long lance, and before he could recover, the pony would swing round, and he could take his opponent in the flank; but that could only be done by individual men in the open.

The lance is a weapon that requires a long and continued use before even average skill can be attained with it, and even then it is of little or no use in a *mêlée*. Moreover, it has never prevented determined horsemen from attacking cavalry armed with it, nor is there any historical example where such attacks have been overcome solely because of the weapon in use. In the charge the man and his horse, taken together as a unit, is the cavalry weapon, to be used at speed and in as great a mass as possible, consistent with mobility, so as to create what Cromwell called "a tornado tempest" with which to destroy the enemy's power of resistance. Such impetuous cavalry charges in mass and at speed, when made at the right moment and at the right place, have always produced such astonishing and far-reaching results that cannot ever be reached by the other arms of the Service, and, as I have already said, all the magnificent traditions of cavalry in winning victories have been made with the sword. In fact, the hand weapon is altogether a secondary question to that of the shock use of "the man and his horse." Cavalry are not required to make a charge an occasion for a display of skill of arms, but for breaking down the enemy's power of resistance by the force of the shock of the charge. The use of hand weapons is a secondary matter in the charge, though, like all secondary matters in war, should be made as efficient as possible in order to make the primary factors more telling and effective.

#### APPENDIX.

The advantages of an automatic-loading rifle:—

1. Increased rapidity of loading, and so more time for aiming, other things being equal.
2. Increased rapidity of aimed fire while the objective is exposed, and also of all firing. This rapidity is sometimes necessary to get a greater useful effect.
3. No recoil, and therefore a greater chance of accurate shooting, even when an increased rapidity of fire is considered necessary.
4. A great reduction of fatigue by reducing the number of times the rifle has to be raised and lowered;
5. Consequently a longer duration of efficacious fire whenever this is once obtained.
6. Less exposure when firing from behind cover.
7. A more continuous and even rapidity of fire than with present rifles.
8. More accurate snap-shooting from not having to lower the rifle after each shot. The rifle can even be held at arm's length when firing.
9. Consequently, far better results in resisting a rapid cavalry advance or charge.

The only real objection that can be urged against automatic-loading rifles is the probability of an increased expenditure of ammunition. This objection has been raised against every improvement in the means of quick-loading. But Earl Roberts and others have borne testimony that our soldiers in South Africa very soon learnt to husband their ammunition, and did not uselessly waste it in action.

The CHAIRMAN (Lieut.-General Sir H. C. Wilkinson, K.C.B., Colonel 4th Dragoon Guards):—With your permission I will now say a few words before I invite others to join in the discussion. First of all, we must thank Colonel Mayne for his interesting lecture. It is on a subject which is certainly of the very deepest importance to the welfare of British cavalry. I have made a few notes on this lecture, but time will not allow me to criticise it *seriatim*. Many of the details in connection with the training and employment of cavalry, which Colonel Mayne has advocated as important and desirable improvements, are not new; they are well known, and are inculcated in our Drill Books. Cavalry soldiers are taught, and know full well, that the horse is their first arm; and that to ride home in the charge, with their whole heart in the work, feeling sure that they can, and will, crush and overthrow their enemy, is the pith and soul of cavalry drill. The lecturer dwells on the alleged fact that in the annals of history the lance has not achieved as many great triumphs as the sword; but he neglects to remind us that the sword has been used by mounted men since the dawn of history, and was winning for itself laurels during many centuries before the lance was known or used in any of the European Armies, and even in later times, when the great value of the lance began to be understood, it was only partially adopted in two or three of the great Armies of the 19th century—always excepting the Russian Cossacks, who, with that arm alone, have made a name for themselves that will last for ever. As Napoleon the Great gained experience and knowledge of war he gradually adopted the lance, as the lecturer has stated, till in the year 1812 he had converted twelve of his best dragoon regiments into lancers, for he found that, armed with the sword, they were quite unable to meet the Russian lancers in battle. The Germans—whom we are always talking about, and whom we are told to copy—at the end of their great war with France converted the whole of their cavalry into lancers.<sup>1</sup> I think that these two instances may be accepted as evidence that the lance has made its mark, and has convinced those who are best able to judge that it is the best weapon for cavalry. The lecturer allows that British lancers have frequently distinguished themselves in recent years, but he refuses to accept this as evidence of the excellence of the lance, by saying that he thinks that the sword would on those occasions have done equally as well. This is hardly a fair argument. If, when the lance distinguishes itself, you say that “the sword would have done as well,” you must allow me to assure you that in all the brilliant operations of war recorded in history where the sword has been successful, the lance, had it been known and used, would have been still more successful. I am glad to note that Colonel Mayne has not omitted to mention the very important achievement of lancers at the battle of Aliwal, which was won by the 16th Lancers riding down and destroying a well-armed and unshaken square of infantry, formed of the flower of the Sikh Army,

<sup>1</sup> This is incorrect. It was not until 1890 that the German cavalry was wholly armed with the lance.—EDITOR.

which had been taught and trained by a European officer. The lancer squadrons charged through and through this square repeatedly, utterly destroying it and crushing the right flank of the Sikh Army. This resulted in their disastrous defeat and the loss of all their guns. The battle of Aliwal was an extremely critical affair, and if we had lost it the map of India might have been a different thing to what it is now. The "Value of the Lance as a Cavalry Weapon" forms part of a big question, which is: the general efficiency of our cavalry, *as Cavalry*, in the future, and much will depend on the arms which we choose to put into their hands. We are very weak in cavalry, I grieve to say. It is well known that we ought to have about four times as many as we have at present to conform to the ordinary rules of European Armies. Having, then, this mere handful of cavalry, it is of the most vital importance that we should arm, train, and equip them so as to make them as efficient as is possible for their own special duties. We all agree, I think, that the horse is the first arm of a cavalry man, and that the lance or sword (whichever you like) is his second weapon. Yet we are asked to approve of our small body of cavalymen being taught to frequently and habitually abandon both their first and their second weapon—i.e., their horses and their swords—for the sake of performing and practising some of the duties of infantry on the ground with their rifles—duties that can be better and far more economically done by mounted infantry. We also, I think, all allow that it takes a long time to make a good cavalry soldier, and that when made and well mounted he is the most formidable fighting unit in any Army, but only when he is mounted. Let us never forget that we must have good cavalry, ready at all times—as they cannot be quickly made—to meet the good cavalry possessed by most of our possible enemies. It is, therefore, obvious that we should spare no time, trouble, or expense in training and equipping the handful of splendid British and Indian cavalry which we do now possess in the best way and with the best weapons that can be obtained for their particular duties. I hope to show you immediately that the lance is by far the most efficient, most deadly, and most terrible weapon in the world, when used by well-trained lancers. Those who have not been closely connected with the teaching and practice of the use of this "Queen of Weapons" can have no idea of its deadly power and efficiency in battle, not only in the charge in line, but also in the *mêlée* and in pursuit. It has been my duty and privilege as a regimental officer and as a general to pass many days, weeks, and, in the aggregate, even months, of my life, in the riding schools and in the open, adjudicating on the skill of our troopers, British and Indian, in the use of the lance, sword, and rifle with fixed bayonets, pitted one against the other. But in these most valuable practices the lancer, owing to the deadly powers of his weapon, has to be denied the use of no less than four of its most effective actions. In the first place, the flag is removed from his lance, so that his opponent's horse may not be frightened. Secondly, he is not allowed to strike, prick, or injure his opponent's horse with his lance; and, thirdly, he is denied the use of the "round-wave," which I shall show you directly is a powerful, sweeping, circular movement of the lance, which, in the *mêlée*, would empty every saddle within six feet of the lancer. Fourthly, no side blow of the lance is allowed against either man or horse, on any account. I will now ask the instructor to perform the lance exercise. [This was done by a non-commissioned officer of the 21st Lancers.] You have noticed the "round-wave." Imagine yourself in a crowd, such as we are all familiar with, at a gate

in a hunting-field when you are trying to get away with hounds, and that you found a lancer facing you in the gate-way and making the "round-wave" with his lance, what destruction would be wrought among you all. Remember that the butt-end of the lance is as formidable as the point in real fighting, for if you were hit by it on the head your skull would be crushed like an egg. In all of our practice competitions between lance and sword in the riding schools, the swordsman is in no way handicapped; indeed, he enjoys certain advantages, for instead of a sword, weighing about 2½ pounds, he is armed with a handy single-stick, which is covered all over with chalk, and if he can manage to touch the lancer with whom he is fighting with this single-stick, even though he does it with what, in real work, would have been the back or the flat of his sword, he wins his round. So, not only is the lancer heavily handicapped in the use of his lance, but he is fighting with a swordsman who is not handicapped at all, but on the contrary, is given two or three very important advantages; and yet out of all the countless encounters that I have witnessed the lance won by far the most frequently—more than two to one—which is an absolute conclusive proof of the great superiority of the lance over the sword. In mortal combat in the field, a good lancer will defeat a good swordsman in nine cases out of ten. A very distinguished cavalry officer, now long deceased, told me that in a mixed cavalry fight, one of his own non-commissioned officers (who do not carry the lance) saw a lance lying on the ground, and he asked and obtained his colonel's leave to pick it up and use it. In the course of the day that non-commissioned officer, who was a brilliant lancer, encountered four horsemen, who attacked him with the sword, volunteering the encounter, and in every case the lancer killed the man in one or two passes. You can easily imagine the great advantage that the lance, properly handled, must have over the sword, owing to its great reach, its all-round action, and the instantly incapacitating nature of the wounds that it inflicts. Its deadly efficiency in war is well known to, and quite undoubted by, all who have had many years' experience with it. They know, appreciate, and with one voice acknowledge the supreme efficiency of the "Queen of Weapons." You will, therefore, not find a single experienced cavalry officer—certainly not any lancer officer—in England or India that approves of the deplorable, and, I think, disastrous, changes that have been recently made in the equipment and drill of our cavalry. Against cavalry swordsmen in line, lancers are overwhelming. Who that has ever seen a charge of lancers can doubt the result of such a shock-conflict? In the *mêlée* and in pursuit they are immeasurably superior to swordsmen, and the moral effect on the enemy of their very existence is great. In the attack of baggage and ammunition columns when on the line of march, lancers have an immense advantage. The infantry soldiers on baggage guard have little to fear when attacked by swordsmen, for they can instantly find shelter under carts and wagons, even baggage animals, rocks, bushes, or trees, etc., will enable them to keep out of the reach of the sword, till they can load and fire; but none of these things afford protection from the lance, and the very knowledge of this has a most disquieting effect upon troops in such positions. Some people think that the long range of rifle fire and the still longer range of modern field guns will make it impossible for cavalry to attack in line, as of old. But they do not remember that as cavalry can pass over the "danger zone" and reach the enemy in about one-fifth of the time that infantry take to go the same distance, the loss experienced by attacking cavalry must be much less than that of infantry. A well-timed cavalry charge

need never be stopped by modern rifle fire. Look at the magnificent way in which the Japanese attack, in spite of all fire and all loss; their infantry dash up against even fortified positions and carry them with the bayonet, suffering heavy loss, certainly; but how much more quickly, and therefore with much less loss, could this be done by cavalry, especially as we know that the bullet from a modern military rifle will not, in many cases, stop a charging horse. It must also be remembered that as a rule cavalry attack by surprise, which gives them a few moments of immunity from fire; or they wait for a chance of attacking unobserved—smoke from burning houses, grass, crops, or brushwood, dust from troops in movement (such as we have often seen at Aldershot) blinding rain, snow, or fog, the dusk of evening, or the grey light of dawn, all give them opportunities for overwhelming their enemy with a destruction that, if they are lancers, is complete. When the enemy gets to know that cavalry cannot now be instantly stopped when charging, as in the days of the Brown Bess or Snider rifle, the dread of them will be an ever-increasing one. I have shown you how efficient the lance is in the *mêlée*, but I claim that the *mêlée* is a mistake, and should never be allowed. The lecturer has told you how that Cromwell found this out, and immediately discontinued the practice; it is a thousand pities it ever found a place in our drill books. As the horse is the cavalry soldier's first weapon, it is with it that he should try to break down all opposition. If the charge is not quite successful, each man should press on and get clear of his enemy, out of the *mêlée*; the leader then quickly reforms his squadron and charges back again, striking another blow, which will do more to complete the overthrow of his enemy than any amount of hand-to-hand fighting in the *mêlée*. There is one other matter that many people do not understand and that they bring forward as an argument against the universal use of the lance, and that is, the uses and duties of the rear rank. They think that the rear rank of a squadron remains the rear rank throughout the charge, and, indeed, all through the day of battle. This is not so with British cavalry. The first and chief object of a cavalry charge in line is to reach and strike the enemy with one unbroken, serried line of horsemen, riding knee to knee, at the utmost speed of the slowest horse (as laid down in our drill books). But every cavalry regiment in line is at all times formed with vacant spaces of eight yards between squadrons and of sixteen yards between regiments. If these vacant spaces were to remain unfilled throughout the charge it would mean a very serious weakening in the cavalry line and in the force of the blow inflicted on the enemy. What really happens is this: troopers, when charging at speed, invariably and almost of necessity open out slightly from the centre of the squadron, thus partly filling up the squadron intervals; but doing so necessarily leaves many small spaces in the front rank of the squadron, and in battle further gaps are made by horses falling, and those that are killed or badly wounded. It is the duty of the rear rank men to immediately fill all these small gaps, so that when the impact takes place the brigade strikes the enemy with one unbroken and serried line of horsemen charging at twenty miles an hour. You can readily believe that such a charge, with levelled lances, is irresistible. A few men and the "serrefiles" will probably still remain in the rear of the squadron. The lecturer wonders why the lance has not been more generally adopted. One reason is that a really good bamboo lance is very difficult to get, and a bad lance is comparatively useless. We, fortunately, have the best lances in the world. Another very cogent reason is that it takes about two years to make an efficient lancer; so many great leaders found

that they could not spare the time that was necessary, though Napoleon did undertake the work in the middle of his great wars. Von Moltke, on the other hand, waited till the war was over, and then he converted the whole of his cavalry into lancers.<sup>1</sup> Some people try to argue that because half-trained lancers are of little use as lancers we ought not to adopt that weapon. A more futile reason could not well be given. Having so few cavalry, it is our duty to train them to the highest state of efficiency, remembering that if war should happen to surprise us at a time when, by bad management, a number of our young lancers were not fully trained, such men would simply leave their lances in their camps or bivouac when they went out to fight, and they would then still be armed in every respect as well as any dragoon or hussar. Lancers carry the sword and rifle as well as the lance. In the same way, if in any conceivable circumstance it was found or thought that the lance would interfere with the performance of any special duty, it could and would, at a moment's notice, be left in camp with the reserve ammunition, and the lancers would still be fully armed. I am well aware that true cavalry, engaged in their proper work, will have countless opportunities for using their rifles with great effect; but I ask that, as a general rule, only half of any squadron or regiment of lancers should be dismounted at a time for this purpose, the other half guarding and holding the horses of the dismounted men, and I claim that lancers can and do so dismount and open fire far quicker than can swordsmen, who have first to return their swords. On many occasions where the horses can be safely guarded in an enclosed place, the whole strength of a lancer regiment can be brought into the firing line just as well as hussars. But as a general rule, I think that when a powerful rifle fire is likely to be wanted, mounted infantry should accompany cavalry; the two acting together can accomplish great things. And I earnestly advocate a great increase in our mounted infantry. We are a riding nation, and could easily produce suitable men. I would like to see at least one company of every infantry regiment mounted on ponies. This would add enormously to the power and efficiency of the British Army; but when employed in large numbers they should be accompanied by cavalry to fully reap the advantage gained by their fire, and to protect them when moving from one place to another, for infantry when mounted are helpless. I am ashamed for having taken up so much of your time.

Major-General J. CECIL RUSSELL, C.V.O., Colonel, 12th (Prince of Wales's Royal) Lancers: — I must first offer my personal thanks to the lecturer for the most interesting lecture he has given, on a subject which to me is of very peculiar importance. I am afraid I do not agree with him in all the conclusions he has come to, and I think I see a good many officers around me who will possibly be more inclined to sympathise with me than with the lecturer. There is not time to go into all the points which he raised, but I will confine myself to one or two. The Chairman, in his very carefully-thought-out remarks, mentioned with some emphasis the moral effect of the lance. After all, the moral effect of any weapon is of the first importance, and if you are going to consider the value of one weapon as compared with any other, or as regards the place which it is to take in our military armament, its moral effect is what you have principally to consider. The

<sup>1</sup> This, as has been pointed out already in previous foot-note, is incorrect.—EDITOR.

effect of every weapon, even of artillery and rifles, is after all often more moral than practical, and we know what a vast number of shots are fired in the field which have no effect whatever other than moral. But the moral effect of both artillery and rifles has never been questioned. In the same way, even supposing the lance never succeeded in doing any particular damage in the field, if it would merely produce a moral effect on the enemy, and only account for a small proportion of destruction, the lance's moral effect must still be remembered as a most important item in considering its value. Colonel Mayne was rather inclined to doubt whether lancers had ever asserted themselves as being of great value in modern war as compared with swordsmen. I can recall, of course, the stories of our great Mutiny campaign, in which a very gallant and distinguished Lancer regiment did most splendid service—I mean the 9th Lancers. In the 9th Lancers, so highly was the lance esteemed, and so useful was it found in the *mêlée*, in pursuit, and in single combat, that all the officers of the 9th Lancers carried lances themselves. I can only repeat, as an instance of the effect of those lances, that one very gallant officer, who has been taken from us in the last year, whom I daresay many of you will remember, Captain Evans, carried a lance, and on one particular day he killed, or at any rate disabled, eleven men with his own hand; and on that particular occasion he was the means of saving the life of an English officer who was in considerable difficulties in a hand-to-hand encounter with one or two rebel swordsmen. At any rate, the 9th Lancers very thoroughly depended upon the lance, and the officers of the 9th Lancers thought it was a weapon which they could use themselves with better effect than the sword. I will not repeat the stories of our own later campaigns, except that at Ulundi the 17th Lancers charged with very great effect indeed. I have had the opportunity of speaking to non-commissioned officers and men who served in the ranks there, and certainly, if I may believe all that they told me—and I have no reason to doubt it—the lance was a most effective weapon on that occasion. Now, to go to foreign examples of actions on a grand scale; in the Austro-Prussian War of 1866, at the battle of Nachod, the Prussian Uhlans (lancers) charged most effectively, and disposed of the heavy cavalry of Austria, of whom a great part were cuirassiers. Again, at Königgrätz, a body of Austrian cavalry, principally cuirassiers, which was commanded by a gallant Englishman called Beales, charged the Prussians with considerable effect. But they were eventually upset completely by a charge of Prussian lancers, which did what the swordsmen were unable to do. These are some instances of the value of the lance, in which the lance has certainly proved its value as compared with the sword. Colonel Mayne said that the sword and firearm of the cavalry would enable it to fill its *rôle* in the field. The sword and firearm form a most excellent equipment. I think it is a great mistake that any cavalry soldier should have more than one arm besides his rifle. He should have either the sword and rifle or the lance and rifle. But I do not believe we need think that the *rôle* of the cavalry is so limited that lancers may not sometimes be of special value, and personally I should be extremely grieved to see the final abolition, of lances in the regiments of our Service which were armed with the lance. And, in the same way, I should be extremely grieved to see the abolition of the sword in regiments which have been armed with the sword. I think both the lance and sword have their own particular *rôles*, and I regard it as a pity that the lance has been even tentatively done away with. I can only hope that the question is still in the air, and that possibly

the comparative value of the two weapons may be again considered. I apologise for having taken up so much of your time.

Lieutenant C. F. ATKINSON, 1st Notts (Robin Hood) V.R.C. :—It is not for a very junior officer of another arm to give any opinion on the point at issue, but I may perhaps state an instance of the deadly efficacy of the lance in the present war. It was not in the regular war. It is described in a paper in the *JOURNAL* by Colonel Beresford, detailing his travels through the theatre of war. He was told by a subaltern of the East Siberian Rifles of an attack which was made on him by Chuchuses, who apparently were mounted on small ponies, charged irregularly, and had small lances. In the true modern infantry spirit he formed his men (four sections) in extended order, with their flanks resting respectively on a wood and deep stream. His firing-line of two sections he extended to six paces, with another section in support, so that in the end, I suppose, he had one man to four paces. The cavalry charged. He fired one volley (at 600 yards), and then ordered independent in the usual way. The result was never for a moment in doubt, he says; after twenty minutes' fighting they were driven off, leaving half their number on the field. In other words, it took the Russians twenty minutes, with extended infantry, to drive off irregular cavalry mounted on small ponies. Cavalry is supposed to cover 600 yards in less than twenty minutes, so they must have come on time after time, even against the magazine rifle in the hands of Regular soldiers who considered these attacks as "rather fun." But the piquancy of the incident lies in the fact that a few of the Chuchuses managed to get round the right flank by swimming and speared three of the infantrymen. One was killed, one mortally wounded, and it was not known whether the third recovered or not. The lance in this instance, even in the hands of inferior performers, seems to be a weapon which, from the infantry point of view, is extremely unpleasant to come within reach of.

Lieut.-Colonel C. B. MAYNE, in reply, said :—You will forgive me, Sir, if I say I think you misunderstood me when you stated I said that the lance had never accomplished so many things as the sword. My words were these :—"As a matter of fact, every success in which the lance has taken a part can be balanced by the equally good success in which the sword has taken part." I did not try to make out that the feats of lancers were smaller, because the sword has been more universally used, but that any feat which can be claimed by the lancer can be balanced by equally good feats performed by swordsmen. I am sorry I did not put the point clearer. You spoke, Sir, of Napoleon and his lancers. He raised these lancers to deal with men of similar character, and he raised all the Poles that he could to deal with the Cossacks who were opposed to him. But not being able to raise enough, he tried the expedient of turning the dragoons, who had done so well in the Peninsula, into lancers, hoping they would do equally well with the lance. But, as you pointed out, Sir, an inferior lancer, from want of training, could not do very much. At the same time, there were many occasions on which our hussars met squarely hostile lancer regiments in the final stages of Waterloo and overthrew them. Again and again lancers and swordsmen met during the battle; but, as I said in my lecture, nearly all these cases were not decided by the weapon, but by the conditions under which one side attacked the other. For instance, in the great heavy cavalry charge of the Union

and Life Brigades, they were pounced upon when exhausted and scattered by French lancers, and these latter were pounced upon by our Light Cavalry Brigade and driven off. Thus the whole question is so balanced between sword and lance as to shock effects that the result to me is that the hand weapon is quite a secondary consideration, and that it is the use of the horse and the man and the other conditions of the fight which tell in the long run. As regards the moral effect of the lance, which General Russell referred to, it does tell at first until the troops get accustomed to it. I quoted the case of the 7th Hussars at Genappe, where they were blocked up by the French lancers in the streets of the village, and there was very little result. Our hussars had in support a dragoon regiment. When the 7th Hussars were ordered to leave the village, and accordingly trotted out, they were followed by the French lancers. The dragoons were ordered to charge; they did not like the look of the lancers, and there was a good deal of murmuring. The General ordered them out of the way and sent the Life Guards at the enemy, who were handsomely routed. Thus there was one regiment which did not fear lances; they went straight at them, and sent the lancers headlong. Two squadrons of lancers charged gallantly the hostile squares at Aliwal, and did all that Sir Henry pointed out. But from the records of the fight it is a certainty that had these gallant troopers been armed with the sword they would have effected exactly the same results. The French lancers charged our squares at Quatre Bras, and although our men waited till they got thirty paces before they fired, the impetus of the horses was so great that some of them broke our ranks as they fell shot down. The French admired the discipline of the men in not moving until they were ordered to close up the ranks. They were not such good cavalry as Napoleon had had before, but if they had been as good as in earlier days they would have got into our squares when the horses fell on our men and bayonets. But if they had been swordsmen they would have done the same. Take the German legion, which broke square after square of the French simply by dashing their horses on the bayonets; and no square can stand that. These were swordsmen, and they broke many a square. What I have been driving at—and I am sorry I did not put it more plainly—is, that whatever feats have been done by one weapon, they can be paralleled by feats done by the other weapon, and therefore in the shock the weapon is immaterial compared to the use of the man and the horse. Sir Henry spoke about the effect of a lancer waving his lance in a crowded gateway in the hunting field. But he would be as jammed up there as in a *mêlée*, and if he had not room he would not have a chance to wave his lance, and his opponents would probably have something by which to remind him that it would not do to use it in that way. You cannot wave the lance in the charge, and as Sir Henry pointed out, the *mêlée* is not a desirable thing. De Brack, who had full experience of the lance and the sword, gave this advice to his swordsmen:—"If you meet a body of lancers, jam them up and prevent them using their lance except in front of them, and then go straight for them." He had no fear of a straight frontal charge of lances. And although Sir Henry speaks of a man being knocked out of the saddle with the wave of a lance, I do not think, from what I have seen, that I could be knocked out of a saddle with one, but, of course, that is a matter of opinion. Then with regard to the lance in pursuit, when you have a man running away, with his back to you, I should not care whether I had a lance or sword in my hand; it would go equally well through him. I have known men who have taken part in such a

pursuit, and they have told me that the sword enters the human body so easily that you hardly notice it. In the case of the lancer who ran two Boers through on horseback at Elandslaagte, a sword would have gone through equally well. We teach all our men to tent-peg with swords. My point is that it is a false issue to raise the question of hand weapons; and then, in that case, if my contention is right in that matter, the sword and firearm are quite sufficient. I have written to an officer, an old Indian officer,<sup>1</sup> whose reply I had hoped to get before to-day, asking if I might use his name. He passed through the Sutlej campaign of 1846, the Punjab campaign of 1849, and the North-West Frontier campaigns of 1852 to 1856. He was badly wounded at Chilianwallah, and I saw a letter of his written to a relation of mine five or six years ago saying that if he had his own way in leading a cavalry charge he would not allow a single man to draw a weapon until after the contact had taken place. It was so important to lead your horse straight into the enemy that it required both hands to make your horse go fairly into your enemy. And his experience was, after all the heavy fighting he saw, that he would not allow a man to have a weapon in his hand until after a shock had taken place. He was a man of very great experience. I do not think there is any other point that I need touch upon.

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<sup>1</sup> Major-General C. J. Godby, since dead.—C.B.M.

## NAVAL COALING PORTS AND THEIR GARRISONS.

*By Major-General Sir A. B. TULLOCH, K.C.B., C.M.G.*

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Friday, 18th November, 1904.

Admiral Sir NATHANIEL BOWDEN-SMITH, K.C.B., in the Chair.

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IN the days of sailing-ships, fleets could remain at sea for many months, and possibly be then even better prepared for action than when they started on their cruise. Now it is very different; unless the modern war-ship can be certain of a port where she can find dock accommodation, workshops to repair machinery, and above all, coal, then her area of action is extremely limited; without coal the most perfect man-of-war would be little better than a dangerous derelict. Experiments have lately been made to coal ships at sea from colliers attached to a fleet, but the amount so carried must necessarily be somewhat limited, and as the ships carrying the coal must keep pace with the fleet, their own supply is thereby steadily reduced, and calm weather or the lee of a friendly island is necessary for such coaling, neither of which can always be reckoned on. To retain command of the sea, well-guarded ports and harbours abroad in our own possession, where men-of-war can securely dock, repair and coal, are just as necessary for the safety of the Empire as battle-ships and cruisers, which, without them, would be of little value when at any distance from the English Channel.

Having lately visited all our coaling ports between England and China, a few remarks on two of the most important, viz., Gibraltar and Malta, may be of interest. For nearly a century, Malta, with its fine harbour, has been the head-quarters, and our only naval station in the Mediterranean where the ships of the fleet could be docked and rapidly supplied with provisions and ammunition. When steam first came into use, coaling could be done there, but the modern iron-clad soon began to demand more than the limited means of the Malta dockyard could supply, and when the Mediterranean Fleet of modern men-of-war increased in numbers, it was evident that another first-class naval base in the Mediterranean was necessary, and as for certain strategical reasons it had to be between Malta and England, it was at once evident that the only place available for it was Gibraltar. But there were two objections to the conversion of the existing small naval station at Gibraltar into a great naval arsenal, viz., the expense of making an artificial harbour from an open roadstead, and the fact that the long range guns of the present day could search the whole of the bay on the west side of the Rock from almost any part of the Spanish territory at ranges not exceeding five miles. On the eastern

side of the Rock, an artificial harbour would have been safe from direct fire, but could be searched by curved fire over the north front, the fall of the shells being directed by signal from the east shore side of the mainland, from which the whole of the back of the Rock, except a very small area by Europa Point, can be seen; the expense also of a harbour on the eastern side, exposed to the full force and currents of the Mediterranean, would be enormous. A naval base at Gibraltar was, however, a necessity, and after most careful consideration by naval and military experts, who thoroughly understood and saw the advantages and disadvantages of the east and west sides of the Rock respectively, it was decided to make the new harbour, docks and workshops on the west.

The fact of the west side being within modern gun range of the mainland is apparent to anyone who takes an interest in the matter, and naturally afforded an opportunity for the usual newspaper criticisms. One special point brought forward was the existing partially constructed batteries, which were commenced during the Spanish-American war, in consequence of an amusing rumour that an American expedition was to land in Algeciras Bay. The only practical use to which these works have been put is that the remains of one of them now forms a bunker on the golf ground, north of Algeciras, which the Spanish authorities have very kindly placed at the disposal of the Gibraltar Golf Club. The final result of the agitation was that the country was put to the expense of a Committee, which simply stated what was already well known to the different Governments which had gone into the matter, and decided that, all things considered, the west was the best side for the harbour.

As for our ever being at war with Spain, such a calamity in the present day, when the commercial undertakings of the two countries are so amalgamated, seems almost impossible; but if it unfortunately did occur, then unless France, with its connecting railways, were also against us, there need not be much cause for anxiety. The infringement of the neutrality of Spain by nations powerful enough to make use of her territory is a matter which must not be ignored, but be that as it may, everything has doubtless been carefully considered and worked out by those responsible for the safety of such an important foreign station and naval base.

It may be here mentioned that the writer stated last year in a Service magazine as much as was permissible with reference to the fortress of Gibraltar, and an attack on it from the mainland, but such a subject is rather beyond the present lecture. It is not out of place, however, to refer to what more that one naval man also concurred in, viz., that many of the guns, and more particularly all the small quick-firers, are much too exposed, and that such guns can be hit from the sea, even when at great elevations, was shown when the officer commanding a gun-vessel obtained permission to fire at O'Hara's tower, when it was decided to demolish it in order to find room for mounting two heavy guns on the site. Heeling over his vessel, the naval man managed to get the required elevation, and struck the tower at the first shot.

There are now certain elevated concealed batteries on the Rock, but if possible, more should be done in concealing all the positions. That battle-ships would try conclusions with a properly placed and constructed fortress is extremely doubtful, but it is more than probable that specially constructed vessels carrying high angle fire guns would

be prepared beforehand by any nation which had in contemplation the attack of a great naval fortress.

But to return to the subject more immediately under consideration. With certain precautions the docks and ships close alongside the breakwater would be fairly safe, but the machine shops near the docks would suffer severely from a land or sea fire. With this in view it might be advisable to have a certain amount of reserve ship-repairing machinery in open rock galleries on the east side, communicating with the dockyard by means of the existing tunnel. The great rock magazines now under construction with tunnels to the yard, give perfect security to all ammunition stores, and a sufficiency of bomb-proof cover for men has also doubtless been attended to. The fresh water supply has been lately augmented by the excavation in the heart of the rock of great dock-like tanks to hold several million gallons; these are filled during the rainy season from the prepared catchment area on the ground above them.

The naval coal sheds are being greatly extended, and these could be supplemented by commercial coal, some 30,000 tons of which will be stored on the coal jetties of the old Mole extension; the objectionable coal hulks lying outside in the Bay will in a short time all be got rid of, and most of the undesirable hulk coaling labour men also. Whilst on the subject of coal supply, experiments have shown that to set coal alight by shell fire is so difficult as to be almost beyond consideration.

The question of the civil inhabitants of the town of Gibraltar, now amounting to a huge total of upwards of 20,000, has to be considered. Doubtless, some would leave the place were hostilities imminent, but for the great mass of people such would not be possible. The difficulties and even danger to the safety of the fortress which such a mass of suffering, starving people would be during hostilities, is a matter which seems to have been ignored by the Colonial Office, which alone can deal with it. The requirements of the garrison doubtless brought the first civilian inhabitant to Gibraltar, but trade and not the garrison has been the cause of the present undesirable number of civil inhabitants coming into the town. Why trade, which has caused the town to be so crowded, should have been permitted by the Government at home in our most important foreign fortress is astonishing, but for many years "bloated armaments" and everything connected with naval and military efficiency were looked on almost with contempt by responsible Ministers of the Crown and their disciples, and trade was to be encouraged even to the extent of making the fortress of Gibraltar one of the greatest depôts for smuggling of modern days. The tobacco trade, owing to certain fiscal alterations, is not so disgracefully carried on and protected by the guns of the Rock as in former days, the customs returns give full information on the subject, but more legitimate trade and manufactures are still sanctioned, until the inhabitants are almost as crowded as on board ship. In addition to being a necessary fortress, Gibraltar is now about to become one of our most important naval bases. Trade of every description, except that in coal and for Army and Navy requirements, therefore, ought unquestionably to be discouraged in every way, and if possible, gradually eliminated entirely from Gibraltar by special Government ordinance of the Colonial Office.

A strong garrison is necessary for such a fortress as Gibraltar—artillery, engineers, and infantry. Of these latter there are now three

strong battalions, which are nevertheless rather a small number when the requirements of an attack and siege have to be considered. The infantry suffer from a most serious drawback, viz., that except for ordinary target practice on fixed ranges at the north front, military field training, owing to there being no room for it on the Rock, is impossible. Gibraltar is now on the so-called home station roster, and consequently a very large percentage of the men, or, rather, youths, who serve there on the new three years' system will certainly not be fit to pass into the Reserve as trained soldiers, ready as such when required. During the Peninsular War, when we were so pushed for men physically fit for active service, Gibraltar was garrisoned by veteran battalions. The late war in South Africa brought about a similar state of things, and as a commencement a garrison battalion of retired thoroughly trained soldiers was again sent to the Rock. Although a few of the garrison regiment men are perhaps rather stout for active work, speaking generally, these battalions of so-called old soldiers are in the prime of life, and fit for anything. But the garrison regiment system has one serious drawback, viz., that about two-thirds of the men are married, with families. It is said on good authority that one-half of these men would have preferred their wives remaining at home drawing separation allowance, but the remaining three or four hundred per regiment were anxious to have their families with them, and had been promised they would in time be sent out, but to find quarters for such a number in a town where trade has made it most difficult for even an officer of moderate means to get house room, made it impossible to find accommodation for so many hundred families, and there was not room to put up more huts on the north front. This, combined with certain other reasons connected with South Africa, caused all the garrison regiments to be sent to that country, and the line battalions were again brought back to what the authorities are pleased to designate a home station.

Why it was considered absolutely necessary to engage married men for the garrison regiment, who declined to be separated from their families, is not very clear; had such been made ineligible the number certainly offering to engage would have been reduced to one-third, but with increased pay, which might have been available had the family question been eliminated, the requisite number of men would in all probability have been obtainable, more especially had the age limit been extended for five years, which for garrison duty would have been quite permissible. In the Navy many officers and men, and particularly amongst the marines, have to be separated from their families for three years at a time; they must be rather amused at the care taken of the soldier in carting his family about the world with him.

It will be said that the Rock is not a favourite station, except with officers, who can go out of the gates and ride into Spain whenever they like, but the most reliable non-commissioned officers are not permitted even to get fresh air by a trip across the Bay in one of the Algeciras steamers, although the Spanish soldiers and coast guard men, carrying their rifles, make regular use of the steamers to and from Gibraltar, as an easy way of getting backwards and forwards from Algeciras, and so across the neutral ground to their quarters in Linea, instead of going round by the Bay shore. To the filthy town of Linea no one would wish to go, except to ride through it as quickly as possible to the happy hunting and pic-nicking grounds of

the cork woods. Non-commissioned officers and men do not possess horses, but there surely could be no objection to allowing small parties of reliable men under non-commissioned officers taking walking exercise in that most beautiful country and climate round Algeciras, where the east wind is a pleasant breeze, but at Gibraltar is the hated Levanter, which, blowing as it does from the East over the sea, and laden with moisture, condenses in mist on meeting the cooler top of the Rock, and so keeps the unfortunate town underneath on the west side during the summer in a most unpleasant state of moist heat. Of course, at Gibraltar, where red tape ruled for so many generations, and possibly is still to be found, objections to allowing anyone but officers and civilians to leave the Rock will be forthcoming. It certainly is strange how any departure from what has been the regulation of the Army meets at once with official opposition. Possibly it may have been something of the sort which prevented the troops lately in South Africa after the war constructing the well-known large bee-hive Zulu huts, which many officers in sporting expeditions have found so comfortable to live in—warm in winter, and cool in summer—but as masonry barracks, wooden huts or tents are the only regulation dwellings for soldiers, doubtless the cheap, rapidly-constructed, and comfortable Zulu hut could not even be taken into consideration, even as a temporary measure.

#### MALTA.

Malta, although only surrendered to England in Napoleon's time, has ever since then been our greatest foreign naval station, its dockyards and defences being kept up to the requirements of the day, until the Fleet, or, rather, its demands, simply outgrew the place. A new dock for the largest battle-ships was constructed some twelve years ago, and other yard extensions made, but these were found to be insufficient, and not to be compared with what Gibraltar will be when its three docks and great machine shops are finished. Malta, however, has these immense advantages over Gibraltar, viz., that its natural harbours as regards space and shelter can hardly be surpassed in any other part of the world, and, above all, there is no mainland in foreign occupation within gun range. The possibility of a hostile force landing to destroy the dockyard and everything connected with it has, of course, been taken into consideration, even to the commencement of a breakwater as a barrier against torpedo-boats or submarines. This, however, by causing still further stagnation to the harbour water, will doubtless necessitate an increase to the buildings of the Naval Hospital. As at Gibraltar, some of the guns seem far too much exposed to fire from the sea, but good land defences have been constructed, and all that now seem necessary there are more direct roads of communication between the different parts of the land lines and a sufficient number of men to hold them.

With so many sea batteries and the land lines to be guarded, a very much larger garrison is necessary than at Gibraltar. In addition to the numerous artillery, engineers, and strong local Maltese regiments, there are seven infantry battalions. Three garrison battalions were until lately stationed at Malta, instead of three Regular regiments, but they also have gone to South Africa, Malta being now classed as a home station, and garrisoned as formerly. As at Gibraltar, service training for these seven infantry battalions is

impossible, owing, in this instance, to the island being a mass of walled-in little fields. An attempt is made to do something on a small space of ground at St. Paul's Bay, which is not large enough to properly train even a single company, the attempt to give service training there being almost a farce, and a painful one for every soldier keen about his profession. The result, both at Gibraltar and Malta, is that the barrack-square drill of former days necessarily comes to the front again, and such trivialities as trooping the colour, fascinating for lady visitors and nursery maids, become matters of special importance. The rifle ranges at Pembroke are good, but they are all fixed, and service field-firing under such conditions is impossible. It would be too expensive a matter from all points of view to make the infantry term of service at Gibraltar and Malta one of twelve months, but most unquestionably from a Service point of view no Regular regiment should be there more than two years, and if it were possible to bring back wifeless garrison battalions such regiments ought to take the place of the Service ones entirely, certainly at Malta.

An official proposition was submitted a few years ago that the Navy should take over their coaling stations abroad, but the Admiralty objected, apparently on the ground that such would increase the Navy Estimates, and that the Navy would in the time of war require all the marines who, it was suggested, would form the garrisons, and it was also feared that naval bases in charge of the Navy would hamper the free action of the Fleet commanders. As regards the first objection, surely, if the country has to pay for the garrisons, it matters not whether the cost is charged in the Navy or Army Estimates; it seems to be a simple case of six of one and half-a-dozen of the other. As for the marines being required in time of war, if the additional marines necessary for garrisons be added to the present strength, that objection also falls to the ground. In fact, the additional marines would really be a new Reserve for the Navy, as their place might in time of war be taken by Militia battalions from England, as was done during the Crimean War, when the line battalions of old soldiers were sent to the front.

How the naval bases, when in charge of naval or marine officers who did not form part of the fleet admirals' commands, would hamper their actions was not stated; the fleet admirals would be as free of anxiety as they are at present.

Naval officers are now retired at an early age, when they are considered too old or have not enough sea time. Such is necessary for strictly naval reasons. But retired naval officers, who are placed on the shelf at a younger age than their comrades in the Army, would be quite fit for shore work, and there are not wanting men in both Services who are of opinion that the officer "handy-man," naval or marine, would be decidedly more at home at a naval base than his brother in the Army. As for marine training stations, such as exist at our home ports, the men-of-war at Gibraltar, where they lie for weeks at a time, would be almost within speaking distance of the barracks, and ready for any special gun or ship work instruction required, and if a tour of service at a coaling port was allowed to count as a commission on board ship, the men having the same advantages as regards pay and rations they have when afloat, such an arrangement would unquestionably be looked on with favour by both officers and men.

Old traditions and feelings die hard, and it is just possible there may have been too strong a conservative feeling to permit of the marine garrison question being favourably considered, when it was submitted some years ago, but under the new *régime* possibly a broader Service view might be taken and the matter reconsidered.

#### WEI-HAI-WEI.

Now that the termination of our lease of Wei-Hai-Wei is within measurable distance, the following remarks on our most distant naval coaling port—the last one visited—may be of special interest:—

In 1898, when a very little more backbone on our part would have prevented the Russians snubbing us and turning the Japanese out of Port Arthur, thereby handing over Southern Manchuria to Russia, and really being the cause of the present war, something had to be done to appease the public indignation at the transaction and the excuse about “an ice-free port” being so necessary for Russia. So we copied that nation’s procedure and leased a slice of China in the south and another in the north, the British public being given to understand that the new northern acquisition of Wei-Hai-Wei would become a first-class naval base and fortress, effectively neutralising the Russian stronghold, less than a hundred miles distant from it.

In course of time, when the public indignation had quieted down, the professional opinion of naval and military experts as to the Service value of our new acquisition became known, viz., that unless an immense amount was expended in fortifications and a large garrison was kept up, Wei-Hai-Wei could not be made what the public expected; but it nevertheless was an excellent ice-free harbour, where a fleet could shelter, and that a few guns on the island at the entrance, with a mine-field ready to put down, and a Chinese regiment as guard, would be sufficient to protect the coal and the few stores which were about all that would be required at the place for the use of our China Fleet in northern waters. This was decided on; the Chinese batteries taken over from the Japanese conquerors were remodelled, and the necessary gun mountings, magazines, etc., completed. A splendid Chinese regiment of 1,200 men was organised, and the guns for the works brought out as far as Hong Kong, all being in accordance with the professional opinions of the naval and military authorities who had been consulted and who were superintending the business.

Unfortunately some naval authorities at home differed from those who had more local knowledge, and their opinions were that unless Wei-Hai-Wei was made into a first-class fortress and naval base, the money expended in making it into a protected coaling station would simply be wasted. Just at this time we were engaged in the South African War, and the Treasury was only too pleased to get any chance of saving, so the work on the island for the small number of guns required was stopped, although within 98 per cent. of completion, and the Chinese Regiment, although it had proved its great value at the siege of Tientsin, has since been reduced to half its original numbers. When the works which the admiral in command had approved of were stopped, another great naval authority, it is said, was of opinion that a flying-base was the proper one for a fleet in North China waters, and the unfinished batteries and the expenditure on the island of Liu-kung-ao in connection, stated to be nearly a quarter of a million, is now

but a sad and expensive monument of a vacillating Government at home.

Without presuming to criticise even the rumour of the professional views of any naval or military authority, the opinion of some naval men as to flying bases may be quoted, viz., that such a base may be a flying one in more senses than one, and not be available when required, and even at the best of times could not be sufficient for the requirements of a fleet which has its great base so far south as Hong Kong. The Japanese extemporised base at the Elliot Islands, which, under existing circumstances, answered their purpose, was only two days' steaming from their naval arsenals in Japan.

A short description of Wei-Hai-Wei, now that its retention is under consideration, may be useful:—

The harbour, which is the best on the North China coast, is a bay about five miles broad and four in depth, with the island of Liu-Kung across the entrance of the north-west corner. This island, which is a trifle over two miles in length and five in circumference, with an elevation in the centre of nearly six hundred feet, has a deep-water channel of less than a mile wide between its west end and the mainland. The inner bays at this place, viz., Half Moon and Pigeon, are well sheltered from all winds, and have excellent holding ground. The men-of-war usually lie on the south side of the island. The extent of this anchorage may be inferred when last year there were there at the same time twenty-one ships of our China Fleet, five of these being battle-ships and five first-class cruisers. The rise and fall of the tide is about eight feet, and yet there is water for mercantile steamers drawing twenty feet to discharge almost anywhere in the bay, which is open all the year round. The other ports of the gulf, viz., Tientsin and Newchwang, are frozen up solid all the winter; the port of Shan-Hai-Wan, viz., Ching-Wan-Tau, is liable to be blocked by floating ice. Chefoo is open, but useless during the strong prevailing northerly winds in winter. All that is advisable just now at Wei-Hai-Wei is that the great dredger alongside the naval pier should work rather longer hours than it does at present, so as to enable the men-of-war to get close in for coaling, the supply of that necessary article on the island being usually about fifty thousand tons.

The island of Liu-Kung and the rugged hill country enclosing the bay is under British administration for a distance of ten miles inland from the water's edge. This gives about 250 square miles, with some 125,000 inhabitants. The British sphere of influence under native law surrounding this territory is another 1,500 square miles, with a population of about one million.

The inhabitants of the 300 villages under our jurisdiction are a quiet, hard-working race, the head-man of each village being answerable for all, and the customary small land tax, which is brought in to the British Commissioner to the day by these head men. Formerly the grant in aid from the Treasury at home for the administration of the Wei-Hai-Wei territory was considerable, but now it is being steadily reduced. Two years ago it was £11,000, last year it was £9,000, and in a short time will be nothing, that is, if it be definitely stated that our territory of Wei-Hai-Wei is not to be abandoned; and if the place is encouraged to become a great trading port, it is not too much to say that there will even be sufficient revenue to pay for the Chinese Regiment.

During the Boxer trouble, and when the regiment did such splendid service at the siege of Tientsin, there was, unfortunately, just a little jealousy about it on the part of the Indian military authorities then in China. So little was known about the regiment at headquarters in England that an officer of it was asked at an interview from what part of India he got his recruits. Unquestionably the regiment ought to be maintained at its full former strength, and organised on the four-company system, with such officers and non-commissioned officers that each company could be expanded into a battalion. A Chinese brigade might some day possibly be of use in other countries besides China.

But to return to Wei-Hai-Wei. Upwards of a hundred miles of excellent roads have been made, and the colony, if it may so be termed, has a splendid fortune before it; the metalliferous wealth of its rugged hills is known to be great, especially in gold-bearing strata. A six-stamp mine has begun work, and there is every probability that the Wei-Hai-Wei stratification, which is the same as that round Port Arthur, just across the straits, will be found equally rich. A small mine close to Port Arthur, worked up to the siege by a Russian syndicate, is stated on reliable authority to have produced two-ounce stone. Argentiferous lead, as well as copper and tin, have also been found in our Wei-Hai-Wei territory, and in the sphere under our jurisdiction there is excellent coal. With security of tenure, the scrub oak wild tussah silk culture would at once be greatly extended, also that of European fruit trees, which are found to do so well in the climate, which, although cold, is very bright in winter, and in summer is perfect. A large hotel has been started on the mainland, and another smaller one on the island. These are annually crowded by visitors escaping from the heat and discomfort of Hong Kong and Shanghai. The children playing and paddling on the great sandy beaches are quite a sight; their rosy cheeks after a few weeks at Wei-Hai-Wei are very different from those of the pale, listless boys and girls on first arrival from the south.

A naval hospital on the islands for invalids from the fleet was decided on, but that was abandoned at the same time the defences were stopped. The British Naval Hospital at Yokohama is excellent, but that is five days' steaming from Wei-Hai-Wei, and, above all, it is not in British territory, and might at any time be denied to us. For some time past there has been a rumour that Wei-Hai-Wei was to be exchanged for an island at the mouth of the Yang-tse, but a coaling depôt there would be too far south. The climate in the summer is most oppressive and unhealthy, and all that district is within the typhoon sphere. If an intermediate coal depôt in the south is considered necessary, then assuredly it ought to be not in exchange for, but in addition to, Wei-Hai-Wei, which proved to be such an excellent base for our forces when the Boxer trouble began. Some naval men, impressed by the success of Japanese torpedoes, are of opinion that no naval station is worth anything without a breakwater, behind which ships can lie in security; but others say that such harbour-loving naval ideas are wrong, and that the proper place for a fleet is, as the Japanese have shown, the open sea, and that a mine-field at Wei-Hai-Wei, with the usual low placed Q.F. guns to cover it, would be sufficient, with the few heavy guns originally contemplated, to protect a coaling base and place where ships could run to for the overhaul of machinery necessary after three weeks' or a month's steaming.

Port Arthur in Russian possession was the cause of our taking possession of that other pillar of Hercules of the Gulf of Pe-chi-li, viz., Wei-Hai-Wei, but the creation by Germany of a far better naval base than Port Arthur, just the same distance from Wei-Hai-Wei on the south, viz., Kiao-chau, seems not to be generally known.

The rising naval power of the Germans, which in rapidity of growth is almost equal to that of Japan, necessitated a first-class naval base in the East, and that the German Government is creating with that steady perseverance and fixity of purpose so characteristic of the nation.

The great bay of Kiao-chau, which is now German territory, as Wei-Hai-Wei is ours, is far too large to make a ship harbour of. The Chinese city of Kiao-chau, from which the German station takes its name, is a little inland from the end of the bay, and some forty miles away from the entrance, but the northern horn of the bay the Germans have already made into a more formidable place of arms than Port Arthur. The little native town of Tsingtau at the promontory was entirely cleared away, and on the sea side of it a perfect German watering-place and summer holiday resort with excellent hotels has been built. It is on the inner side of the promontory that the Eastern Naval Arsenal of Germany has already been almost completed. A great breakwater has been built out in the bay; behind this are tidal basins, and the large dry docks will, it is said, be finished in two years more. On the land side a strong line of forts has been built, and the whole position thoroughly protected. There are now about 3,000 German marines in garrison. Although only about the same extent of sphere of influence exists as at Wei-Hai-Wei, the Germans really have the whole of the province of Shan-tung under their thumb. They have made a double line of railway, 150 miles long, to the capital, Tsi-nan, and by their treaty with China, no railway can be constructed anywhere else in Shan-tung, even by the Chinese themselves, that is, if foreign capital, other than German, is required for it; and finally, the Germans have a definite lease of Kiao-chau for 99 years--a very different arrangement from ours.

Information about the other naval ports between the Mediterranean and the Gulf of Pe-chi-li, viz., Aden, Ceylon, Singapore, and Hong Kong, would require another paper. It will be sufficient now to state that Aden, which is garrisoned by European and native troops, forms part of the Indian command, and is administered by the Government of that country. Ceylon is garrisoned by a British-European force, and administered by the War Office, the cost of the garrison being paid by the civil Government of Ceylon.

Singapore, Hong Kong, as well as Tientsin, Peking, and Shan-Hai-Wan, are garrisoned by a mixed force of British troops administered by the War Office, and Indian troops under the Indian Government, the officers of the Indian troops being on the high rate of Indian pay, the officers of the British regiments receiving a much lower colonial allowance only.

The same divided administration and different rates of pay exist also at Mauritius, which is garrisoned by British troops under the War Office and native troops under the Indian Government. It surely would be a move in the right direction, and one that would take much work and responsibility off the War Office in London, if all these garrisons east of the Cape were, like Aden, under one adminis-

tration, viz., that of India, which could then be credited with the cost and contributions now paid by the home and colonial Government.

So much detailed information may seem superfluous, but I think it may be useful when considering what is the gist of the lecture, viz., to what extent, if any, might the Navy assist in the protection of the coaling ports?

One idea is that, as on the Continent, the Navy should take over all naval stations, but with due deference to those who entertain such views, I venture to point out such would be to make the Navy do work for which it was not created, and very difficult to carry out.

But I cannot help being of opinion that it might be advisable to consider the question of the Navy having charge of two special naval strategical points, viz., Gibraltar and Bermuda, and also of the island of Liu-Kung at Wei-Hai-Wei. Those places have not great extents of land defences, such as Malta and the foreign stations, for which the Army must be responsible. All that might be advocated with reference to all foreign naval stations, as well as our home ports, is that submarine mines and search-lights should be in naval charge. For Gibraltar three battalions of marines would be required, but might not Bermuda be garrisoned by time-expired sailors and marines not young enough for active service in the Fleet, but quite equal to garrison duty?

Some explanation is necessary with reference to the suggestions about submarine mines and search-lights.

When submarine mines with their electric connections were first regularly established as means of defence for ports and harbours, their installation and working had to be undertaken by that specially scientific branch of the Army—viz., the Royal Engineers—as the Admiralty declined the responsibility, and the Navy in those days had not found it necessary to know much about electricity; but now that the naval man, speaking generally, is about the most scientifically trained man of war in existence, surely it is time to consider whether he should not have the entire management of everything in or on the water, be they submarine mines, submarine ships, or torpedoes.

Were submarine mining entirely in the hands of the highly and constantly trained Royal Engineers any change might be inadvisable, but when the most powerful engines of destruction known in warfare have to be placed in the hands of Militia and Volunteers, it would seem that some alteration of the system is required. As regards search-lights there can be no question but that they should all be worked by naval men who are constantly using them—a landsman, no matter how perfect he may be as an electrician, cannot have that practical seaman's knowledge of ships and everything connected with them which enables him in a second to distinguish friend from foe and to turn his search-light on or off.

Landsmen in too many cases seem to be ignorant of the complete blindness which overpowers anyone on whom the light is turned, and the helpless condition of the man at the wheel who is in its focus. Search-light men at their ordinary practice from shore batteries have often placed steamers entering a port at night in great danger apparently from ignorance of the power of their lights.

Some officers who have studied the question of sea-front batteries are of opinion that they should be in charge of Marine Artillery, who could at once, even at the present long ranges, distinguish the

different classes of ships and their weak points, and would immediately use the proper projectile. But to substitute marine or naval gunners for Royal Garrison Artillery at all coast batteries would be impossible, but it might be a move in the right direction if all young officers of Garrison Artillery had to go through a short course of instruction afloat on board of a man-of-war. After such they would be in a better position to judge as to the class and nature of an enemy's ship than by studying photographs as at present, and might possibly have charge of the search-lights instead of the Royal Engineers, who do not go afloat.

Lieut.-General GORDON D. PRITCHARD, C.B. (Colonel Commandant Royal Engineers): — I wish to make a few remarks about this lecture. The author and I were in the China War together in 1860, therefore he knows a very great deal about China. I agree with almost all he said in his lecture, except on two or three points. He speaks about there being no drill places at Gibraltar, and that therefore the Marines should be put there. Now, the Marines require places in which to drill as well as the Army. There being no drill ground applies to many places in England and the colonies. With regard to the civil population, it could be always ordered away, as would be the families of the married soldiers. Then with regard to giving Gibraltar and Bermuda over to the Navy, I consider that where fortifications are erected and repairs have to be done you ought to have Royal Engineers. Naval officers enter their profession so very young that they cannot learn everything. The study of fortifications, I was going to say, almost takes up a man's lifetime, and I do not consider that it would be wise to hand over a place like Gibraltar or Bermuda to the Navy. With regard to Wei-Hai-Wei, I think Wei-Hai-Wei should be fortified as strongly as Port Arthur. In 1860, forty-four years ago, we were landed at Taiien-Wan Bay. I have ridden over to Port Arthur, which was then nothing like it is now; there were no fortifications in those days. Then Major-General Tulloch said that "Wei-Hai-Wei is much better than a flying naval base." I quite agree with him there. My idea is that an admiral should always be with the fleet. A fleet is a moving body, and should always have its admiral with it, whilst coaling stations are fixed places, and you really want what a naval man would call a "land-lubber" there. The lecturer suggests that India should take over all coaling ports east of the Cape. Now, if India is to take over all coaling ports East of the Cape, I should like to know whether he means the Indian marine or the military power. With regard to fortifying Wei-Hai-Wei, while the Germans can spend any amount of money they like on fortifications, our Chancellor of the Exchequer so limits us that we really cannot spend much money upon them. The last point I want to speak about is with regard to submarine mining. Submarine mining is taught by the Royal Engineers at Chatham; I have been through a course of it. Naval officers, I believe, are now being scientifically educated; but originally, entering so young, they never used to take up scientific subjects.<sup>1</sup> I think where

<sup>1</sup> As Lieut.-General Pritchard's remarks lend themselves to some misconception, it may be as well to point out that for the last twenty-five years or more all battle-ships and large cruisers have carried a certain number of counter-mines, and that the laying rapidly of these mines or counter-mines, both for offensive and defensive purposes, has been during the same period one of the regular exercises of the Fleet, affording the same opportunities to individual ships of showing their smartness, as the old sail-drill used to do.—EDITOR.

you have Royal Engineers you can properly superintend these things, and it is therefore a pity to take submarine mining away and give them over to the Navy. With regard to the affair at the Dogger Bank, there was an admiral who, even with search-lights, could not distinguish fishing vessels from torpedo-boats. I do not want to say another word, but I consider that Gibraltar and Bermuda should be retained by the military, and that the submarine mines and search-lights should also be retained by the Royal Engineers. Search-lights you must have on board ships and for coast batteries. After the South African War we had a military commission, and they altered everything. If we should have a naval war, you will find mistakes will and must be made. Then there will be a naval commission, and you will not hear of the Navy being so perfect as it is now. I believe it will be found very perfect; but still it is not everything that you could wish. With these few words I beg to start the discussion.

Major-General D. D. T. O'CALLAGHAN, C.V.O., R.A.:—I have asked permission to say a word or two on the lecture this afternoon, because I have just returned from the command of the Royal Artillery at Malta, where I had the good fortune to make the lecturer's acquaintance. He has attached a good deal of importance—too much importance, I think, if I may say so—to the guns. He says they are unduly exposed. I cannot agree with that. It is constantly said that the barbette guns which we have now mounted in large numbers both at Gibraltar and Malta are unduly exposed; but I think, with due deference to the lecturer, this a good deal arises from people going round the island by sea, and round the Rock, at a range of five or six hundred yards, when many guns appear to be on the sky-line. If they went out to three or four thousand yards, which is the ordinary range at which forts would be fired at, they would find the guns exceedingly difficult to see, even with a good glass. They are no longer on the sky-line, they have a good and rocky background behind them, and they are extremely hard to distinguish. They are further protected by a shield, and they have the great advantage over guns *not* mounted *en barbette*, of having an all-round fire. With regard to what the lecturer said about the Navy and Army, the subject has been argued so often and so frequently—almost *ad nauseam*—that I should be perhaps presumptuous in saying anything on the subject; but the fact is that I have been five years at Malta in command of 2,850 of our men, and I felt the responsibility so greatly that I think few naval men would care to undertake it without the previous training that all we gunners have had. Whether it would be a good thing for the Navy, or whether it would be a bad thing for the Navy to take over our coaling stations is not for me to say; whether it would be a good thing for the Army, on the other hand, or a bad thing, that is also not for me to say; but I think long-shore billets are looked at rather askance by the Navy, who very rightly uphold the necessity of a sea *régime*. With regard to the mine-fields and search-lights, mine-fields have been the theme of much discussion. Some people attach the first importance to them, some people the second importance, some no importance at all. I am not going to argue that; I prefer to range myself with the angels who fear to tread. But as regards the mines, they are in very good hands now, and the absolute utility of those mines, I take it, would not be enhanced by handing them over to officers who cannot have had the course of instruction, which was just referred to, or the constant use of those mines in time of peace. As regards the Navy taking over the search-lights, I am afraid I should go

even further than the engineers would care to go. I say that we gunners ought to have supreme control of the search-lights. I think the man who fires the gun should hold the lamp to see by, and that has been the case at Malta. I do not mean to say that the Royal Artillery have had the Royal Engineers under their command, but we have worked together, and the man who had the gun defence in his responsibility had the light to show him where to shoot. As regards the necessity of naval men having charge of the search-light in order to discriminate between the vessels that are to be fired at, I cannot see the necessity for that. I know it is a *rexata questio* just now as to what is to be shot at at night, but I am perfectly certain that there should be no difficulty in distinguishing between a hostile vessel and a friendly vessel, since every vessel approaching the batteries at night should be treated as a hostile vessel; so the need for discrimination between one and the other falls to the ground. I think, after these remarks, I should like, if I may so do, to offer my humble tribute of thanks to the lecturer, and to you, Sir, for allowing me to speak.

Major-General Sir G. A. FRENCH, K.C.M.G. :—I should like to make a few remarks on the very interesting lecture that we have just heard from Major-General Tulloch. General Tulloch alluded to the great difficulty that the infantry had at Malta and Gibraltar in attending to their proper duties as infantry. What struck me as peculiar is why, in time of peace, we should have such very large garrisons at Malta and Gibraltar. At the present time, according to the Army List, there are some eight infantry battalions at Malta, one being temporarily absent at Crete. Surely it is unnecessary to keep up all that force in time of peace. Suppose we took four of them home, and allowed them to attend to their proper duties at home, we could quickly send them to Malta in time of war; it is only a week's steam from England. I certainly do not see any great necessity for keeping up such a garrison in peace time. I know particularly, too, that where Colonies are under the British Government they do mighty little for their own defence. How do they get on in Australia and Canada? They turn out men and find their own defence mostly; but what are they doing in what are called the Crown Colonies? Precious little. There is a civil population of over 190,000 in Malta. How much are they doing to defend their own homes? There is one militia battalion, I believe, and they certainly have a battalion of what were the old Malta Fencibles now the Malta Artillery. Surely 190,000 civil population could do a great deal more towards the defence of their homes than that. The question of search-lights has been alluded to, and that is a point on which I hold pretty strong views. As commandant recently in New South Wales, I took care that the officer working the search-lights, whoever he might be, was under the officer commanding the artillery. It is absurd to suppose that a man who is going to fire a big gun at a ship at night is to be handicapped by having the light switched off on to something else. I think a good many in this room will recollect a similar experience at Milford Haven some years ago, in which the engineer subaltern who was more interested in the mine-fields, switched the light off to look after the mine-field when the officer commanding artillery wanted to fire at the vessel coming in. That is the sort of thing that will occur under divided command. I hold that the Navy has such great and important duties to attend to that they cannot spare the time, attention, or study to take up what we may call shore-going duties. If there is one heresy more than another that has been raised in the last quarter of a century it is that of the Navy coming ashore and taking up shore duties.

I think it was started about a quarter of a century ago by Sir William Jervoise, an engineer officer, and it has come up at different times since. It is a very catchy thing. Why should not we do as foreign countries do? If we consider what England has to do we begin to get an answer. We are supposed to keep up a fleet equal to that of two or three of the other great Powers. Have we got the population of two or three of the great Powers? Secondly, have we got the maritime conscription that they have? How are we going to man the fleet? Have we ever been able to man a fleet fully in war time? We used to have press-gangs going round the streets. Can you do that now? No. We are totally dependent on volunteers to man a fleet that has to be two or three times the strength of that of any of the other great Powers. I say the Navy has not got men for such shore-going duties. Lord Selborne, the other day, put down the duty of the Navy pretty clearly: to have nothing to do with local defences, but to go abroad and seek the enemy's fleets, wherever they were. That is the duty of the Navy, and a very important and wide-reaching duty it is. Nobody admires the Navy more than I do; but I consider it would be a bad day indeed when naval officers and men are put ashore to do shore-going duties, when they have already immense responsibilities at sea, and are our first line of defence. So far from taking the view that has been held by some, of the Navy taking duties on shore, I go to the other extreme. I should make it a *sine quâ non* that officers, non-commissioned officers, and men serving in the coast artillery, serving in coast companies of engineers, submarine miners, electricians, and so on, should be liable for service on board ship. That is the opposite view, and I think it is much more likely it is the one that will be adopted, for this reason: that the Navy, in our past experience of the Navy, has never been able to man the ships, and I do not suppose we shall have any better experience in the future. You will excuse me for emphasising this point, but I have always felt very strongly on the subject; and I sincerely trust before this meeting adjourns that some of the distinguished naval officers present will give us a clear exposition of their views on this most material point.

Colonel E. M. LLOYD, R.E. :—It seems to me, especially after hearing what has fallen from the last speaker, that there is a confusion between the ideas of the coaling stations being taken over by the Admiralty and the work of defence there being superintended and carried out by men and officers of the Navy. I do not see that the one necessarily involves the other, and as a Royal Engineer I felt myself dissenting very much from what General Pritchard said on that point. He said that fortification, for instance, is an elaborate study, and that a naval officer had already a great deal to do without wasting his time upon it, and that he had better leave it to the Royal Engineers. At present the Admiralty employ certain Royal Engineers to carry out their works of civil construction. There can be no sort of reason why they should not similarly employ Royal Engineers for works of defence, and why they should not take over, in such a case, large bodies of Garrison Artillery and Garrison Engineers to carry out the duties. It does not at all involve any change in detail on the spot, as far as regards the men who are concerned, but it does in the general control. It seems to me the great ground for the change is that if you want a thing done you had better do it yourself. Coaling stations are vital to the Navy; it is all-important that they should be properly seen to. It is very undesirable, then, that they should be handed over to another department which has other things which concern it and engage

its interests and attention a great deal more than coaling stations. We have been told lately, with regard to the question of garrisons, that the Navy has never proposed an increased garrison for coaling stations; it looks upon that as the business of the War Office. The War Office, on the other hand, is always struggling to balance its home troops against its foreign troops, to alter its system of recruiting, to send garrison regiments abroad at one time and bring them away at another time, in connection with other problems that are entirely distinct from the question of coaling stations. Therefore, *primâ facie*, it would be a great gain if the whole question of what garrisons were wanted, what money should be spent, what guns should be provided, whether there shall or shall not be some mine defence, were entirely managed by the Admiralty. Of course, if the Admiralty do carry them out, they must have a wide-spread coast-corps; but that does not necessarily involve taking a man from on board ship and putting him on shore.

Major-General Sir A. B. TULLOCH, K.C.B., C.M.G., in reply, said:— I was in hopes that we would have had a more extended discussion. The first question asked was by General Pritchard, concerning Gibraltar, namely, that marines require training as much as land troops, and that if they were at Gibraltar they could not be better trained than the infantry. But what I said was that Gibraltar should account for three battalions only: 3 years there to count as a ship's commission time. I think if they were on land they would certainly get a chance of a little more shore training than if they were on board ship. With reference to the repairs of works, of course you must have engineers to repair the fortifications, and so on. They have Royal Engineers at dockyard works regularly told off and attached for the purpose; that would go as a matter of course. As regards India taking over the stations that I referred to, I do not suppose there would be any change whatever as regards the Navy. I simply suggested that those stations I mentioned should be in the hands of one Government instead of two administrations, as they are at present. With reference to the Germans getting any amount of money they like, people who, like myself, have been to Wei-Hai-Wei, have come to the conclusion that what the naval people say is quite right, viz., that they do not require more work of fortification at Wei-Hai-Wei than there is at present when they are completed, and they are within 98 per cent. of being finished. As regards what was mentioned about the Dogger Bank incident, I think that exactly confirms what I said, that the men in charge of search-lights must be men who understand and know what their requirements are. If artillery officers were put through a naval course as I suggest, then they, having to work the guns, would be more in their proper place than the R.E. In that respect I most thoroughly agree with General O'Callaghan. General O'Callaghan referred to the guns on the sky-line. I looked at the guns, both at Gibraltar and at Hong Kong, as I was coming in from a long distance, and I certainly could see them a very long way off. The guns I specially referred to I could see from Algecirás, 5 miles off—I mean specially the barbette guns at both places. With regard to what I said about shore billets, I did not mean in any way that they should be long shore naval billets for men on the active list. All I suggest is that Gibraltar might be garrisoned by three battalions of marines and Bermuda by a battalion, possibly of pensioner marines and old blue-jackets combined. In no other way did I suggest that the Navy should take over the defence of any other coaling port whatever but those two that I have named. Engineers and artillery do work together as a rule, but I have

known where the work has not been done together. I may mention one case in connection with the shields of 18-ton guns of a particular battery. The battery was re-armed, but the shields for 12-ton guns were not altered, and the guns, from inability to elevate, were useless. I happened to find that out and brought it to the notice of the two officers concerned, viz., the C.R.A. and C.R.E. As regards search-lights, that instance at the western ports is too well known; but I did not like to refer to it in my lecture. I do not think there is anything else for me to reply to.

The CHAIRMAN (Admiral Sir N. Bowden-Smith, K.C.B.):—In bringing this discussion to a conclusion I should like first of all to say as a naval officer that General Tulloch need not have apologised for bringing the subject of coaling stations or any other combined naval or military matter before us, he being a soldier himself. Speaking for my brother officers, we are only too glad to hear the officers of the sister Service taking an interest in our Service or anything connected with it. Besides, the question he has brought to our notice to-day is a mixed question; it concerns both Services. You will all agree with me that we have to thank the General for giving us his views on our coaling stations in the East, which information he has gathered, I understand, from a recent personal visit. He first of all deals with Gibraltar, which is well known to most of us. I am not going to take up your time by saying anything about the new docks and naval works, which have been well thrashed out and entirely settled. General Tulloch mentioned the question of the civil population, which I know has been a matter of anxiety to many of the governors; but, as a speaker who took part in the discussion pointed out, it is rather unnecessarily so, because in the event of any complication or war we could turn some of them out and send them on to the mainland. The people might not like it, but in war time some must suffer, and if we did so turn them out we should guarantee them a fair compensation whilst evicted. As regards the garrison of Gibraltar proper and the people who have to remain there, I can see no great cause for anxiety. Gibraltar, certainly, should be in a position to take care of itself for a month or six weeks, and if it could not be relieved in that time it would mean that we had permanently lost command of the sea, and in that case we should lose the British Empire. Then the lecturer refers to the difficulty at Malta and Gibraltar in providing proper training for the troops in manoeuvres and field exercise; but as a speaker has pointed out, if those garrisons were turned over to the Navy we should be exactly in the same difficulty. Our bluejackets and marines would probably deteriorate more than the soldier. I venture to hope that my brother officers in the Army will be able to find some means of interesting and instructing the men, even in such places. I would suggest that greater attention should be paid to individual shooting, although, as General Tulloch points out, the ranges are not all that could be desired. If in battle the best shots were known, as possibly they are, and only 10 per cent of the men were allowed to fire at the enemy, and the other 90 per cent. would supply them with ammunition, I believe a great deal more execution would be done, and there would be an enormous saving in the expenditure of cartridges. The most interesting part of the General's paper is with regard to Wei-Hai-Wei, which he has recently visited. We may be very near to the termination of the lease, as we only hold it by agreement, so long as the Russians hold Port Arthur. I am glad myself that the fortifications at Wei-Hai-Wei were dropped, for, speaking generally, I am much against the multiplication of our coaling stations, for the very good reason that we have not

enough men to garrison them. I understand that the extreme Naval School say that our coaling stations are protected by the fleet. Of course, to a certain extent, that is true. If we lost permanently the command of the sea we should certainly lose our coaling stations; but to get full value out of the fleet I consider that every important coaling station ought to be able to take care of itself for at least a month or six weeks. The fleet ought to be able to concentrate in large numbers in any certain place, and whilst doing so the important coaling stations should be able to take care of themselves in the event of attack from any hostile squadron. The Admiralty might take over some of the smaller coaling stations if the marines were considerably increased; but it would be quite impossible, in my opinion, for the Admiralty to think of taking over such stations as Gibraltar. The lecturer makes a proposal that perhaps the guns might be manned by the land forces, and that the submarine mines and search-lights should be undertaken by the Navy. This would lead to confusion, for the officer who controls the gun-fire must also control the search-light, and he who controls the mine-field must also have command of the search-lights. I will now ask you to join with me in conveying a vote of thanks to the lecturer for his paper.

## COALING OF SHIPS OF WAR AT SEA AND IN HARBOUR.

*By Mr. G. C. MACKROW, M.I.N.A., Naval Architect to the Thames  
Ironworks Shipbuilding Company.*

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Wednesday, 22nd June, 1904.

Admiral Sir N. BOWDEN-SMITH, K.C.B., in the Chair.

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THE members of this important Institution have already had before them two papers on a similar subject to that which I now venture to submit to them, one by Lieutenant R. S. Lowry, R.N., in 1883, and one by Lieutenant C. E. Bell, R.N., in 1887, and copies of these papers have very kindly been placed at my disposal by your esteemed Editor.

I have also had the privilege of reading a very valuable paper by Mr. Spencer Miller, an Associate of the Society of Naval Architects and Marine Engineers of the United States, so that I know pretty well all the systems that have been devised—at least, as far as they have been published—and, further, that the British Admiralty have also given the Spencer-Miller system a trial, but with results that we believe still leave further room for improvement.

Captain (now Vice-Admiral) FitzGerald said, when discussing Lieutenant Bell's plan, that he did not think any apology was necessary on the part of any naval officer or other person who may bring this important subject before the members of this Institution, and therefore I feel emboldened to submit a proposal, that we have been working at at the Thames Ironworks for the past four years, to a body of naval officers such as compose this Institution, and who can best appreciate its value.

I need not take up the time of the meeting by referring to the various steps by which we arrived at what we now submit as a practical solution of the problem. The vital points, viz., the hoisting and transferring of the bags of coal from the hoist on to a continuously running conveying line, travelling at any speed up to 1,000 feet per minute, and again upon reaching the battle-ship transferring the bags of coal from the said running line to the deck without in any way reducing its speed, is a feat, we believe, which has never before been accomplished. These points we have tested as far as possible on shore, and we can deliver from 50 to 200 tons with ease, and we should now be pleased if our Admiralty, before whom it has been for the past four years, would decide to give it a trial at sea.

That some slight modification of the details may be found in practice to be necessary is probable, but I have every confidence that these can be readily made.

I presume that the three requirements, as stated by Lieutenant Bell as necessary to any satisfactory solution, are accepted by all present, viz.:—

1. Rapidity.
2. Safety.
3. Ability for the ships engaged in the operation to proceed with the minimum diminution of speed.

With regard to the first point—viz., rapidity—we undertake to deliver from 50 to 100 tons per hour, in a seaway in which the collier does not roll more than 15 degrees, as Admiral Wilson gave it as his opinion that should the collier roll beyond this, coaling operations on board could not possibly be continued.

With regard to the second point—safety—I may here say that it has been the main point of consideration by us, as the risk of danger by the accidental falling of our suspension weight, unless arrested or otherwise provided against, might prove very serious, but we believe we have fully provided against such an accident, as we shall hope to show later on in the course of this lecture.

With regard to the third point, we submit that the vessels can perform this operation equally well at high speed, at low speed, or at anchor.

I will now describe the gear, as represented in the model and plans before you:—

Firstly, we have a vertical cylinder (which we call a slewing jib or transporter), which contains a tension weight and a set of sheaves in the same, suspended by means of the conveyer line from another set of sheaves attached to the crown of the cylinder or transporter.

Secondly, we have an endless steel wire travelling rope passing round the two sets of sheaves in the transporter, the bight being carried to sheer legs on the after part of the deck of the war-ship or to the military top, as preferred, where it will pass round a free wheel or pulley, and by means of the above-mentioned tension weight we have a practically uniform tension on the said rope maintained, notwithstanding the distance between the ships varying to the extent of ten to twelve fathoms.

Thirdly, we have a novel form of hoist secured to the front of the vertical cylinder with a series of projecting hooks that catch other duplex hooks attached to the coal bags, and carried on a circular continuously-travelling feeding ring which is fitted around the transporter at a height of about five feet above the deck, and provided with scores in its upper edge about two feet apart, into which these hooks drop, and are carried into position ready to be automatically picked up by the above-mentioned projecting hooks.

Fourthly, at the head of the above-mentioned hoist we secure what we call a shunt bar that receives the duplex hook of the coal bag when it is cast off the hoist, whence it travels by gravity down the shunt bar, and so passes on to the transporting line.

Fifthly, a small engine is fixed at the head of the slewing jib, and this will give movement to the following gear—viz., the transport-



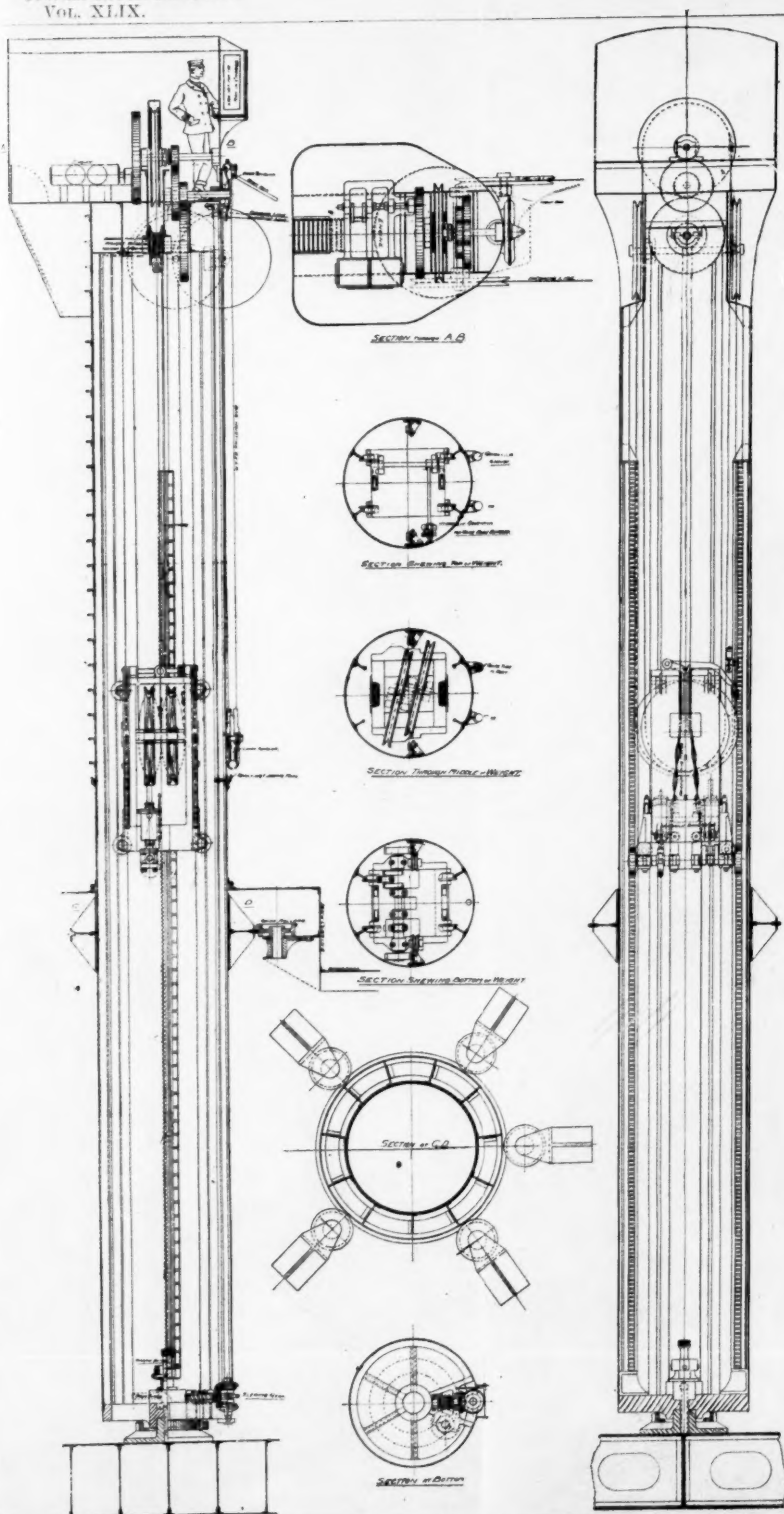
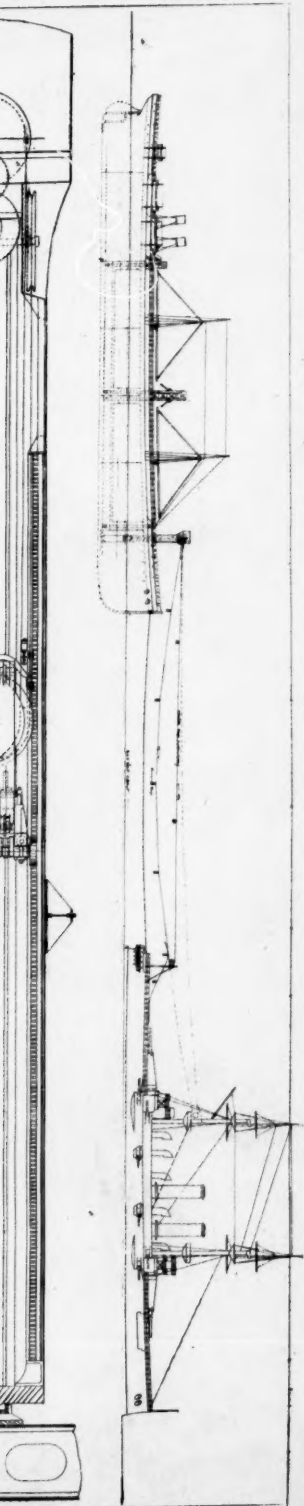


PLATE 2.





ing line, the hoisting gear, the feeding ring, the tension relieving gear, and also the slewing gear, so that the sheaves at the head of the transporter may always teach direct to the sheaves on the war-ship, in order that the coaling operation may proceed independently of the relative positions of the ships. By this means the collier may be towed direct astern or on the quarter at pleasure, or even on the broadside should occasion require it.

It will be seen from this that a continuous train of coal bags may be hoisted from the deck of the collier, transferred to the transporting line, and when arriving at the war-ship be again transferred by means of another shunt bar from the transporting line on to a carrier rail, and so arranged to travel to any point on the deck that may be desired near the coal shoots.

It will be observed from the above remarks that there is no reciprocating movement, but that it is a continuous one, and so no time is lost while the empty bags are being returned, as they are sent back on the inward running line, while the coals are being sent out to the war-ship by the outward running line.

So far we have dealt only with the question of delivery of the coal from a collier to a battle-ship or cruiser, and have assumed that the coal can be brought to the head of the transporter at the same rate as it can be despatched to the war-ship.

This at once raises the question as to the desirability, or not, of having specially built fast colliers, and it is the opinion of many naval officers, notably Lord Charles Beresford, that such vessels should be built to carry some 5,000 tons of coal and capable of steaming fifteen knots per hour, and some five years since Lord Charles Beresford telegraphed my company—the Thames Ironworks—to give him an approximate price for such a vessel, as he was going to broach the subject in the House of Commons.

We did so, and this led us to get out a special design for a collier on the above lines:—Length, 450 feet; beam, 50 feet; draught of water, 26 feet; twin-screw engines of 5,600-I.H.P., and a displacement of 11,000 tons.

We proposed to place the propelling machinery aft and to divide the fore part into six holds, and in each hold to have at the lower part a filling-room entered by means of a trunk from the upper deck. In three sides of this room we had proposed to fit a door as in an ordinary coal bunker, the coals paying down by gravity to these doors; but we now propose to erect a sloped or arched floor, to be kept about seven feet from the bottom of the hold, so as to allow the coal to pay down on to a table in the filling-room, and from thence be raked into bags suspended with their open mouths close to the table, and when filled to be hoisted up the trunk to a traveller fitted overhead along the upper deck, which, being made to travel continuously, would convey the coals from the holds to the heel of the transporter, as above mentioned. The bags, as they arrived at the revolving ring at the heel of the transporter, would each in its turn be caught by the hook of the elevator, and so be hoisted to the head and transferred to the conveyer line as above described. We estimate that with twenty to thirty men in either of the compartments we could easily fill from 600 to 1,000 bags per hour, equal to from 60 to 100 tons, making a total of from 360 to 600 tons per hour.

The objection that may be raised to this proposal would be the cost of raising and maintaining such a fleet of colliers, as the special case we are proposing to meet is that of an emergency in war time. In times of peace our coaling ports would, of course, be always available, and the proposal for coaling at sea is only in view of such a contingency as meeting the requirements of a "fleet in being" stationed, it is assumed, at a given rendezvous, from which point it would be desirable that the fleet should issue fully provided with coal to make a descent upon the enemy in the open, or to blockade a port. What we have thought would be a wise arrangement would be to subsidise a few fast steamers, such as the 17-knot Cunard cargo-boats, and fit them for the reception of one or two of our transporters, say, one in the bow and one in the stern, the one in the bow to clear the fore hold, and the one in the stern to clear the after hold. This would necessitate the collier being towed by the war-ship and depositing the coal in the after deck of the same, and the collier to take a second war-ship in tow, and deliver the coal from her after hold to the fore part of the war-ship, and by these means the tow rope would always be kept taut, the leading battle-ship steaming slowly, say, four or five knots, or even less, if the second war-ship turned her engines astern. It has been objected that the tension on the transporting line, say, of three tons, would tend to draw the collier toward the battle-ship, and result in allowing the tension weight to descend to the bottom of the transporter and thus destroy the tension. This objection we have thought could easily be met by the helmsman putting the helm over a few degrees, thus increasing the resistance; the transporter being made to slew, the transporting line could always be kept teaching direct to the free wheel on the battle-ship, which wheel, being also made to slew, the transporting line would always run true.

If the above arrangement was adopted the coals would have to be bagged in the open holds as at present, and we should propose to fix a rail such as we have often fitted in the coal bunkers of H.M. ships, to convey the coal from one end of the bunker to the bunker doors. This rail would be supported on portable standards on upper deck of collier secured to the combings of the hatchways and carried all round the decks, forming an endless rail, the loaded bags going forward on, say, the starboard side and the empty bags returning on the port side, the usual steam derricks and winches on the masts being used for hoisting the coal after being bagged in the open holds and depositing them on to the above-mentioned bar, and suspended by the duplex hook attached to each bag as before described. This method would, of course, require more hands and involve more labour than in the case of the specially designed collier with the filling-rooms, but not more than is required at present when unloading by means of the transporters generally in use in the Navy.

The entire question is one on which naval officers will join issue, some contending for the handling of coal more mechanically and systematically, others contending that the "handy man's" own nautical devices may be safely trusted, each commander being left to train his crew in his own method.

In peace time, as before stated, we have not to consider so seriously the question of the coaling of H.M. ships, as, in most of the ports or harbours of our distant colonies labour is cheap and plentiful, as we

have heard of nearly 2,000 hands being employed in one port and the vessel coaled in a prodigiously short space of time.

Still, it may be considered to be advisable to have a simple method of coaling even in port or harbour, and our Admiralty has been induced to give a trial to a proposal we have submitted to them.

Our proposal for loading in harbour is as follows:—

To build a 1,000-ton lighter and fit in the lower part of the hold a filling room, on the sloping crown of which coals are deposited as in an ordinary open lighter. The sloping crown or floor does not run home to the side of the lighter, but stops some three or four feet short of the side, thus allowing the coal to pay down through this opening on to a receiving table placed underneath the opening, on the edge of which table the bags are held open and the coal is raked off the table into the bags, and as the table is cleared more coals pay down by gravity, and so entirely obviates the necessity and consequent labour of digging and shovelling, as in an ordinary open hold. The bag filling being carried on under cover, the men are protected from the scorching rays of a blazing sun, the chilling blasts of an easterly wind, and can work in wet weather as well as in dry, and with much more comfort and with less labour.

The lighter is divided into two parts, one hold forward and one aft, and in each lower hold or filling-room there is ample room for twenty men to work filling, each man handling three tons per hour, equal to 60 tons, or, by increasing the number of men to thirty in each hold, we can deal with 90 to 100 tons of coal per hour, making a total output of 200 tons per hour.

At the end of each hold we fit one of our Express Transporters, which will lift the coal after being bagged to any required height, either of a gun-boat alongside or of a battle-ship, the bag of coal upon reaching any required height, being detached and allowed to slide down the shunt bar on to the deck of the gun-boat or battle-ship as the case may be. By this means, from the time the bag is filled in the hold of the lighter and hooked on to the overhead travelling rail until it reaches the deck of the battle-ship, it has not to be handled by anyone.

The dust arising from this operation is surprisingly small, as the coal pays down quietly, and what dust there is floating in the air is removed by a Sturtevant or other approved fan working in the end of each hold and depositing the fine dust in a receptacle provided at the end of the hold, so that a constant supply of fresh air is maintained.

Electric lights are to be fitted both in the filling rooms and aloft, and the whole of the mechanism for hoisting the bags from the receiving table to the traveller, again to the hoist, is in charge of one man to each hold, stationed on deck amidships, who can see what is passing, and can stop and start the gear at pleasure.

These lighters, being for harbour use, are not self-propelling, but are supposed to be towed from the coal dépôt to her berth alongside the battle-ship. To load the lighters from collier or barges it is proposed to fit a couple of steam cranes to work a Hone's Grab, an appliance that has come largely into use of late years in most of the gas-works in this country, where large quantities of coal are continually dealt with, 80 tons per hour being easily moved on shore by one grab.

## GENERAL PARTICULARS OF TRANSPORTER.

Extreme Length of Transporting Trunk	..	56 feet.
Diameter of " "	..	5 feet 3 inches.
Total Weight of Transporter complete	..	28 to 30 tons.
Height of Transporting Line above Sea at Collier	..	about 35 feet.
Height of Transporting Line above Sea at Battle-ship	..	about 30 feet.
Dip of Line when Loaded	..	from 13 feet to 19 feet.
Weight of Tensioning Apparatus complete	..	8 tons.
Normal Tension on Transporting Line	..	2 tons.
Transporting Line of Special Flexible Steel		
Wire Rope	..	2-inch circls.
Diameter of Sheaves on Tread	..	3 feet 6 inches.
Working Speed of Transporting Line	..	600 feet per minute.
Spacing of Coal Bags on "	..	60 feet apart.
Weight of Coal in each Bag	..	2 cwt.
Speed of Hoisting Gear for Bags	..	60 feet per minute.
Working Distance between Transporter on Collier and Sheer Legs on Battle-ship	..	350 feet.
Amount of Veer and Haul	..	66 feet.

Mr. ARNOLD F. HILLS (Managing Director of the Thames Ironworks Shipbuilding Company):—While the gentlemen present are turning over in their minds the questions that they would like to put to Mr. Mackrow, I should like, with your permission, to bring out a few of the points in the paper so far as they affect, it seems to me, our naval policy. Mr. Mackrow has dealt very fairly, I think, with the mechanical arrangements by which it is proposed to deliver coal from a collier to a battle-ship. When I first of all asked Mr. Mackrow, some four or five years ago, to investigate this question, I had in my mind principally the necessities of war-time; but it is probable that in times of peace there will be considerable requirements for mechanical coaling arrangements at the ports, without considering the necessity of coaling at sea at all; in fact, I think Mr. Mackrow mentioned that we are just about to build a coaling dépôt for the Admiralty for the purpose of handling coal mechanically, and for transferring it from the dépôt to cruisers or battle-ships that may come alongside. There is no particular difficulty about that problem at all, but there is a particular difficulty about the problem of coaling at sea. The reasons why I believe it is essential—certainly for an Imperial Power like our own, with fleets going all over the world—to have such facilities are something as follows:—One of the conditioning questions of naval operations is the supply of coal. The engines determine the speed of the ship; the engines in their turn are determined by the supply of coal; and in the original design of the ship herself you have to consider this question of coal supply as a primary condition. The principal reason why our English battle-ships have grown to such an immense size has been the necessity for a sufficient supply of coal to take them at high speed over from 1,000 to 2,000 miles radius at sea. That means that the ship has to grow, the armour has to grow, the engine power has to grow; everything on board ship grows proportionately, and the result is that our recent battle-ships of from fifteen to sixteen thousand tons have begun to be of a size which makes some of us begin to feel a little afraid. The accidents of war have been brought home terribly close to our minds during the last few months by the fact that a first-class battle-ship can go down, under the influence of a mine explosion, in less than two minutes, and it gives

us cause to think. That was one of the matters that I had in my mind when I first asked Mr. Mackrow to consider this matter, because if we can provide battle-ships with a full supply of coal, and let these coal depôts, or fleet-colliers, or whatever you may choose to term them, keep within a close distance of a fleet in action, it is not necessary that those ships should be so large. That is one advantage, and it largely affects the question of the design of a battle-ship. Then you come to the question of naval operations themselves. No one would deny, especially with the experience of the last three months, that any fleet that can carry, say, fifteen or twenty thousand tons of coal, or any vessel that can keep up with an ordinary fleet, would be an immense advantage. At present a Navy in undertaking operations has to take its battle-ships five or six hundred miles with the coal they have on board, and then, having exhausted the coal, they have to return to some place settled beforehand so as to re-coal and get ready for fresh operations. Any fleet that could keep the sea for three or four weeks at a time, having abundance of coal delivered to them, would have an immense advantage in any operations undertaken. That is the second advantage which this scheme provides. Then we come to the difficulties that have to be overcome. I am bound to say in that respect that the Americans have been a little ahead of our own Admiralty. The experiments made with Mr. Miller's device in the United States have not been wholly successful, but at all events they were a part of the idea, and nobody knows what the difficulties are until they have tried the apparatus at sea. So far, our experience has been on shore, and we are exceedingly anxious that the Admiralty should give us the opportunity of experimenting with this apparatus at sea. We have overcome the difficulties on land, but we are not quite sure that we know all the difficulties that may arise at sea. When the collier and the battle-ship are moving at different speeds, when there are variations in the waves and water, new difficulties may arise in the transportation problem with which we are not familiar; and therefore until we have had that practical experience I do not profess that we have overcome all the difficulties at sea. But we have tried the apparatus on shore, and we have delivered up to 200 tons of coal an hour on a full-scale model from one point to another. We have no doubt whatever as to the general practicability of the scheme, but we would like to have a little further experience at sea in order to find out what those practical difficulties may be. Anyone considering the matter at all will realise that the great difficulty is, compensating the continually varying movements of the battle-ship and the collier, and the difficulty we have had with the Admiralty has been that they take exception to our rising and falling weight. They say: "Supposing one of your lines were to break, and that weight were to fall, it would go through the bottom of the ship, and that would be a serious state of affairs." We have not yet been able to persuade them, first of all, that a ship can very easily be designed so that if the weight did fall through the bottom it would involve no serious danger to the ship at all; and, secondly, that we have put counter-checks and catches, similar to what are running on lifts in every hotel that you go into, so that in case of any breakdown, before the weight could fall far it would be taken charge of. We, as ordinary engineers, have satisfied ourselves; we have made very proper provision against the risk of this danger: we are prepared to take the responsibility—not only to take the responsibility, but to take the cost, because I intimated to the Admiralty some time since that we are prepared to rig up a collier, to put this gear on board, and to make the necessary experiments, probably costing several thousand

pounds, provided that they will make the experiments with a battle-ship or cruiser, and if the thing is satisfactory will take it over for use with their fleets. I am very glad indeed we have had this opportunity of discussing the matter before the United Services, because I think it is a matter of public importance that a problem which has been worked out by a responsible firm, with the expenditure of considerable time and money, should be tried in the interests of the nation itself. Finally, I should like to point out that if this system does work successfully at sea, if you can deliver from 100 to 150 tons of coal by a single rope from one collier to any battle-ship, that you have got over one of the great difficulties so far as naval operations are concerned. You have only to build a fleet-collier, carrying from 15,000 to 20,000 tons of coal, to go out with the fleet, and you will have sufficient coal reserves for large operations. The same thing applies probably to ammunition and guns. It is one of the great problems of the day as to how a fleet in active operations can keep its guns in condition when the rifling has worn out, and supply themselves with fresh and large supplies of ammunition, more than they can actually carry on board a ship. It is becoming, I think, painfully apparent that you cannot build a ship of a size which can conveniently carry all it requires in the way of reserve, either of coal or ammunition, and it therefore seems to me probable that if these experiments were successfully made the Government might adopt the principle of fleet-colliers, with every fleet carrying a reserve of 20,000 tons of coal and a reserve of ammunition, which would travel at the same speed, so that a fleet would go out not only equipped with its ammunition and coal that it carries on board, but with a large reserve of ammunition and coal, which could be carried by the store-ships travelling with the fleet. I must apologise, Sir, for speaking so long, but I wanted to bring before the notice of the meeting what we are trying to do upon the scheme which has been suggested.

Vice-Admiral W. L. MANN:—The only remark I wish to make in regard to the very excellent mechanical arrangement which has been shown us is with regard to the distance away at which the collier is towed. 350 feet is a very small distance when you are towing a heavy ship at sea. I should like to know whether that has ever been actually tried.

Mr. MACKROW, in reply, said:—The experiment that the Admiralty made with one gear was with a vessel towing 400 feet astern, and they told me plainly that they would not care for more than 300 or 400 feet at the outside. We could go, in our original proposal, to 500 feet. Perhaps you did not notice that I said that we had arranged originally to tow with 300 feet between the collier and battle-ship, and give 200 feet veer and haul either way, so that the two vessels could have gone 500 feet apart. My first idea was to tow by means of our transporter line, and not to have a special tow-line at all. What effect a three-ton tension at the head of our transporter in the bow of a collier would have I cannot say. I am very pleased indeed to be able to submit this problem to naval officers, because, really, it is a naval officer's problem, viz., whether you could tow from the head of the transporter by means of the transporter lines, or whether of necessity you must have, in addition, a tow-line. The Admiralty have said: "By all means, we should always work with a tow-line." Very well, in that case the tow-line is the limit of distance the vessels can go apart; but if they wish for 400 feet they have only

to regulate the towing-line for 400 or 500 feet, as they please, only our endless line must be made to match, and the tension weight increased accordingly. We must come to some decision on that point. I think you understand about the endless line. We have to splice that wire line in about 60 feet of length, in order to make a good sound splice. I have been waiting for some gentleman to raise the most serious objection, which is a sort of nightmare to the Admiralty, namely, this question of the falling weight. Certainly, if that weight did fall, without any provision for arresting it, I have no doubt it would make a way for itself.

The CHAIRMAN:—Will you state the size of the weight?

Mr. MACKROW:—It is determined entirely by the length of line you wish to have; I mean the length of reserve. I think I can make the naval officers present understand by this illustration. It is really the principle of two single blocks suspended side by side. The two standing parts are joined, forming a bight at one end, and then the two hauling parts are assumed to be carried out and joined, thus forming the bight at the other end, on the battle-ship, so that you can have two series of single blocks or double blocks or treble blocks. You understand that if you have to haul two treble blocks apart you require much more power, so you want an increasing tension-weight. Our original idea, with this 400 feet of line, was to have a 30-ton weight, but as the Admiralty now say that 60 feet—say 10 fathoms—is plenty for the veer and haul, we have reduced our weight to 7 or 8 tons. But the great fear which has already been expressed has been that if the line should break and the weight fall, and that if no provision was made to arrest it, it would necessarily go through the bottom of the vessel, and, of course, tend to loss of life. One Admiralty officer suggested that we should make a well-hole in the bottom of the ship, so that if the line did break, the weight could go through and overboard. I said: "No, in the twentieth century surely we can catch a falling weight of 8 tons"; I could not entertain such a crude idea. In all the thousands of lifts that are running all over the country it is very seldom you hear of a mishap. But I want to show you now, as you have not called attention to it, what would happen if the line did break or was thrown off, by means of this model which we have here—how we can catch the weight. It is a very simple matter. We have four wire ropes, one of which is sufficient to sustain the weight. We arrest the fall of the weight in about one foot by means of the gear shown in the section and in the model. We have let the weights fall scores of times, and it has never failed, so that I do not think there is anything to fear from that point. In view of the Admiralty's fear, we had, however, also introduced a second break gear: Two small oil cylinders, with an opening in the cylinders to allow of the oil flowing through to give a certain speed of travel, so that should the line break, the weight, instead of falling suddenly to the bottom of the trunk, is allowed to fall gradually down the rack-work that we have fitted on the two sides.

[Mr. Mackrow then showed, by means of the working models, the manner in which the weight was caught if the line broke, and also exhibited and explained a model representing a section of a 12,000-ton floating coal depôt.]

The CHAIRMAN (Admiral Sir N. Bowden-Smith, K.C.B.):—Through the courtesy of the Thames Iron Works Shipbuilding Company, I was permitted to go down and see this apparatus at work on a large scale on their

premises. The experiment was carried out in a long shed, and I saw real coal bags lifted up on to the wire rope, carried along, and deposited on the deck of a supposed battle-ship; and everything worked admirably and without a hitch. But, of course, as Mr. Arnold Hills and the inventor admit, this arrangement must be tried at sea before it can be pronounced a success. It must be evident to the audience that the endless wire rope is always kept in tension by means of the clever suspension weight which is exhibited. We sailors know that when we are towing a ship the tow-rope tightens or slackens by the action of the sea on the vessels; but the suspension weight tends to keep the endless wire rope always taut. Mr. Mackrow has told us that he has provided against the danger of the weight falling, which is one of the objections raised against the invention. When watching coal bags travelling along the wire rope it occurred to me that in carrying out this operation at sea some of the bags might be jerked off the line into the water; but if it did result in a bag or two of coals falling overboard, or some bags touching the water, I do not think that would be sufficient to condemn the invention. I am somewhat surprised that this apparently clever invention has not yet been tried at sea. I am sure that under officers like Admiral Sir A. K. Wilson, in the Home Fleet, or Lord Charles Beresford, in the Channel Fleet, any invention for coaling at sea would receive, not only a fair trial, but a most intelligent one. I agree with what has fallen from Mr. Arnold Hills, namely, that if we could adopt a satisfactory means of coaling at sea it might lead to a reduction in the size of our ships, that is to say, we might have five battle-ships with the displacement of four of the present vessels, for these cruising colliers would carry other stores besides coal, and thus considerably reduce weights. There can be no doubt, of course, that the Admiralty are fully alive to the importance of coaling at sea. Doubtless many plans and proposals have been submitted to them; but I can sympathise with the inventor and the proprietors of the Thames Iron Works in being kept in a state of suspense as to whether their invention is likely to have a trial or not, particularly as Mr. Hills has stated that his firm is ready to contribute a large sum towards the expenses of the trial. I will not detain you longer, but am quite sure you will join with me in according a hearty vote of thanks to Mr. Mackrow for his clever invention, and thank him for showing us the working model at this Institution.

## THE SOMALILAND OPERATIONS

JUNE, 1903, TO MAY, 1904.<sup>1</sup>

*By Major F. CUNLIFFE OWEN, R.F.A.*

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THE general trend of affairs in our Somaliland Protectorate, leading up to the operations recently conducted, will be probably well known to the readers of this JOURNAL.

### I.—GENERAL SITUATION AT COMMENCEMENT OF RECENT OPERATIONS.

Suffice it to say here that the object of the operations was, in a word, the expulsion or capture of the Mullah, who, for the three years previous, had been disturbing the peace of the Protectorate, and against whom three previous series of operations had been directed.

The last of the three series, viz., that under Brigadier-General Manning, had left the situation as follows:—

The Mullah, overwhelming a detachment from General Manning's force at Gumburru (W. of Galadi), and fighting a sharp action with another portion of the force at Daratoleh (N. of Walwal and Wardair), had moved from the west to the Nogal District, with some 1,200 to 1,500 riflemen, 4,000 ponies, and a number of spearmen.

General Manning, who had mainly been operating round Galadi, withdrew his forces from that region, and retired north along, and retaining hold of, our old-established line, Bohotleh-Burao-Sheikh to the sea, which the Mullah, it will be observed had crossed in moving to the Nogal.

### II.—THE POSITION OF THE ENEMY AND OUR OBJECTIVE.

In making this move to the Nogal, the Mullah had entered into a region which was acceptable to a large portion of his following. To explain this, and for the purposes of this narrative, the Somali tribes may be classed generally into the four following divisions:—

1. Ishak.
2. Dolbahanta.
3. Mijjarten.
4. Ogaden.

The first are mostly attached to us, inhabiting the coast and more northerly portion of our Protectorate. The second, more of a fighting class than the first, were divided between us and the Mullah; but the great preponderance lay with him. Their habitat comprises the Nogal and country N., W., and S. of the latter. The Mijjarten are the one great tribe occupying the N. and E. Somali coasts in Italian territory. The Ogaden country lies in the west of our Protectorate—up to and across the Abyssinian border.

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<sup>1</sup> This paper was written last September.

Now, the Mullah himself is an Ogaden, and if pressed in the Nogal district, the region of his choice might be placed as the western country and well-watered district of the Webbe Shebeyle. Inasmuch, however, as a large part of his later following comprised Dolbahanta men, attracted to him during his previous enterprises, and as the Nogal district affords some permanent water supply with good grazing on the adjacent northern and southern Haud tablelands, a fair assumption on our part was that he might make some more or less determined attempt to cling to the Nogal as long as it suited him for resting purposes, and so forth; and in view of the certain amount of prestige obtained after Erigo and Gumburru, it was very possible that he would be emboldened to try some really definite conclusions with us in the district in question. In any case, however, our course was to move against him thither, taking such precautions, at the same time, as we could to block his way back to his own country.

There is more to be said in connection with the full strategical situation, but these few preliminary remarks will be sufficient at this stage to outline what was in front of the field force.

### III.—OUR FORCES FOR THE CAMPAIGN.

The forces left over by General Manning comprised the following units:—

#### *British Troops.*

1 company mounted infantry.

#### *Indian Troops.*

2 companies mounted infantry.

Bikanir Camel Corps.

1 section mountain battery.

1 company sappers and miners.

52nd Sikhs.

The 101st Grenadiers.

107th Pioneers.

#### *African Troops.*

About 1,000 rifles from the 1st, 2nd, 3rd, 5th Battalions and Indian Contingent of the King's African Rifles, and the camel battery from the same corps, 2 companies mounted infantry and some foot levies, forming the nucleus of the recently-formed 6th (Somaliland) Battalion King's African Rifles.

In all about 4,000 men, now occupying, as above noted, Bohotleh and the line thence N. through Sheikh to the sea.

There was also in the country a British R.E. Telegraph Detachment, working a wire right up to Bohotleh.

Upon, or generally concurrent with, General Egerton's arrival, the following additional troops were added:—

3 companies 2nd Bn. Hants Regiment, from Aden.

27th Punjaubis,

2 companies British mounted infantry, } from India.

1 company native sappers and miners, }

## IV.—ORGANISATION AND INITIAL DISTRIBUTION OF OUR FIGHTING FORCES.

The whole force was now grouped into:—

- a. Mounted troops.
- b. I. Infantry brigade.
- c. II. Infantry brigade.
- d. Line of communication and divisional troops.

The mounted troops were sub-divided into 4 corps:—

- I. Corps British (and Somali)<sup>1</sup> M.I.
- II. „ Indian M.I.
- III. „ Tribal Horse: A body of Somali Irregulars newly raised in the country.
- IV. „ Gadabursi Horse: A similar body to the last named.

These two last corps were each 500 strong, and were supplied with fire-arms and 3 British officers apiece. The whole of the mounted troops were under the command of Lieut.-Colonel Kenna, and (except the Somali M.I.) were for the moment distributed along the line, where water and grazing facilities best offered. The Somali M.I. were left forward as part of a small "movable column."

The 1st Infantry Brigade consisted of all the K.A. Rifle detachments grouped together, and the 2nd Brigade of the Hants, Sikhs, and Punjaubis. The 1st Brigade held Bohotleh and occupied the line thence to Burao, also supplying the infantry for the "movable column." The 2nd Brigade were concentrated generally in the high-lying country at Upper and Lower Sheikh.

Of the remaining troops, the engineers were kept busy with water supply, the improvement of the defences of posts and so forth, and the pioneer battalion with road-making on the line. The Grenadiers performed the duties at the base, supplied escorts and garrisons for Hargeisa (an important centre in the west, though not included in the present operations) and Las Dureh, a small post east of Sheikh.

In reference to the dispositions described above, it must be noted that an advanced base had been formed at Kirrit, a place of permanent water supply, and Wadamagoa, another favourable spot for water and grazing, had been selected as the centre from which a small "movable column" (before referred to) carried out reconnaissances, and stood ready in case of raids or any premature enterprise by the enemy.

Having now dealt with the fighting forces at disposal,<sup>2</sup> attention will be next directed to the question of transport, which, always a difficult matter in "savage" operations, perhaps presents even more difficulties in Somaliland than elsewhere.

## V.—TRANSPORT; WITH WHICH ALSO DESCRIPTION OF COUNTRY AND COMMUNICATIONS CAN BE SUITABLY COMBINED.

On account of the poorness of communications and the sandy soil of the country, little opportunities offer in Somaliland for more than

<sup>1</sup> Only nominally in this Corps. They were generally detached.

<sup>2</sup> The Mullah's forces by the autumn may be said to have totalled up to about 40,000 men, the number of rifles being perhaps a couple of hundred more than that given on p. 169.

"pack" transport, and on account of water and forage difficulties this "pack" transport must be mainly camel.

In our communication line from Berbera to Bohotleh, a more or less clearly defined road presented itself, latterly well laid and improved by the pioneers for a great portion of its length. Even, however, where so improved and well laid, any continuous traffic of men and beasts rendered the road deep and heavy sand.

Further, the high-lying country from Upper Sheikh to the south is reached from the maritime region by an extremely steep pass, difficult of negotiation by the lightest of wheeled transport.

Off the above main line and in the Nogal, there are merely primitive tracks, in some cases through thick scrub.

Apart from the steep ascent at Sheikh, there is nothing really formidable in the nature of hilly country to face in the region now under description. From Sheikh the country gently descends south to Bohotleh and east to the Nogal district. This latter is somewhat rough and broken up by nullahs and water-courses, with isolated hills, but is not generally difficult for pack transport or mounted men. South of the Nogal, past Bohotleh to the west, stretches the Southern "Haud," a high-lying table-land<sup>1</sup> approached by steep passes; and the Northern "Haud" (or "Sorl") lies similarly on the north.

As regards the water and forage difficulties, any permanent wells are some distance apart, and require as often as not some considerable cleaning out; while, though there are numerous water-courses and water-pans, these cannot be depended upon except after good rain. No crops are grown, and therefore for animals one is entirely dependent upon grazing, complications being thus introduced if animals are imported who normally require grain. Great exertions had to be put forward in organising transport for the present expedition, for not only was there little of much use left at the conclusion of former operations, but those now undertaken were designed to be more comprehensive than any which had gone before, and were prosecuted with considerably larger forces.

Though nothing very extensive could be effected with other than camel transport, the following were also utilised:—

- a. 2 companies A.S.C. from South Africa, with buck-wagons and mules, for work at the base and a short way up from Berbera.
- b. A mule corps of about 800 mules, principally for work up and down the Sheikh Pass. These mules were from South Africa, and also from India, the former having remained over from the previous Obbia operations.
- c. 3 Ekka trains from India for work along the best part of the main road, Sheikh to Burao, and also between Berbera and the Sheikh Pass.
- d. An Arab camel cart train for similar work to the last named.

And—

- e. An Arab coolie corps from Aden for pier work at Berbera, in conjunction with a light tramway which conveyed stores from the pier to the various departments.

<sup>1</sup> Mostly waterless, but with good grazing facilities.

The main transport amounted to 16 camel corps, each of about 600 camels, Indian, Arab, and Somali, attended by natives from the country from which drawn. The Indian corps were on the Silladar system, and their camels were of greatly better value than either Arab or Somali, carrying more weight and lasting longer. The Arab camels were purchased at Aden, the Somali mostly in the western part of the Protectorate, near the vicinity of Hargeisa, Bulhar, etc.

#### VI.—INTELLIGENCE DEPARTMENT.

Next to the transport, the Intelligence Department necessitates a few words of special description.

With such an elusive enemy as the Mullah and the desert nature of the country, the gaining of intelligence, especially for the period antecedent to the commencement of regular operations, was by no means an easy matter.

The main source by which intelligence was obtained lay in the sending out of somewhat large parties of mounted scouts ("illalos"). These men really covered enormous distances and secured the bulk of the news.

Other sources of information were spies and refugees (though it was difficult to establish any regular system of the former), and reliable news filtered in sometimes from places on the coast. The principal of these were Hais, Las Khorai, Bosaso, Ras Hafun, and Obbia. H.M.'s ships visited these spots at intervals, in addition to which, military intelligence officers were posted for periods at Hais, Las Khorai, and Obbia,<sup>1</sup> either living on land or in a war-ship. The Intelligence Department generally, which was of meagre proportion in the previous operations, was organised most effectively for the later phases. Some half-dozen to a dozen intelligence officers were employed with the various units or at posts, and the scouts were augmented to the number of 450, being changed according to the theatre operated in. Furthermore, all the interpreters to the force, totalling to 150 or more, were engaged and supplied by the intelligence authorities.

#### VII.—PRELIMINARY ARRANGEMENTS PREVIOUS AND LEADING UP TO GENERAL ADVANCE.

It will be recollected that the initial movements for the campaign, concurrent with the organisation of the necessary transport service, consisted of the occupation of Kirrit as an advanced base and the maintenance of the "movable column" at Wadamagoa.

This "movable column," subsequently pushed forward to Eil Dab, effected various reconnaissances to the east and south, and the parties of scouts at Eil Dab and Bohotleh, more especially those at the latter place, were industriously and effectively worked. The telegraph, besides running to Bohotleh, was also laid to Eil Dab, and the R.E. had done much in perfecting the water supply from Sheikh forward. By the middle of November the force was practically ready for forward movement, and the Mullah had been located as still in the vicinity of Kallis and Adadero (S.E. Nogal).

An immediate forward movement was, however, held up on account of the delayed progress of our allies, the Abyssinians.

<sup>1</sup>Through the consent of the Italian authorities in this latter case.

Negotiations had been entered into with the Emperor Menelik to co-operate with us once again in our Somali warfare, but his forces, through want of transport, were not as far advanced as was hoped would have been the case. Their intention was to move down S.E. from Harrar, *viâ* Gerlogubi, Wardair, and take up the occupation of the Galadi Wells, and possibly further, of those at Galkayu, so as to act as a stop to the Mullah returning back south or across the line to the Webbe Shebeyle neighbourhood.

In view of the delay with the Abyssinians, it was now decided, before making our Nogal advance, to escort a garrison down to Galadi, and to leave this garrison there with provisions to last till relief by our allies, calculated to the beginning of January.

This movement was successfully effected, and the escorting column returned to Bohotleh. Concurrently with this, negotiations were entered into, through the Italians, with Ali Yusuf, the Sultan of Obbia, to move his tribesmen west and occupy Galkayu, a main watering place for the Mullah should he take a more circuitous route to the Webbe Shebeyle neighbourhood than that *viâ* Galadi.

It is true that in our calculations the country to the north of the Nogal was more or less open to the Mullah, but this could not be altogether avoided. All that we could do in this direction was to make overtures to Osman Mahmoud, the head of the Mijjarten.<sup>1</sup> This gentleman, swayed by divided counsels, could not be counted upon to oppose the Mullah very actively. He could be relied upon, however, to make matters uncomfortable by raiding, and would probably not care for the Mullah to take up any but a very temporary abode in his territory. Moreover, the Mullah, in any case, if in this northern zone, would be farther and farther away from his own country, with the waterless "Sorl," or Northern "Haud," always intervening.

Towards the end of December the advanced base had been pushed forward to Eil Dab; the headquarters moved thither, and concentration made there of the mounted troops and bulk of the IInd Brigade.

#### VIII.—THE ADVANCE INTO THE NOGAL.

The plan was now for the IInd Brigade to move along the northern Nogal line, and the Ist Brigade, from Bohotleh, along the southern. This arrangement was, however, modified in view of action by the enemy.

Information arrived that the latter were on the move; in fact that the Mullah was himself proceeding north and east from Adadero, and had established a strong advanced post at Jidballi (50 miles east of Eil Dab).

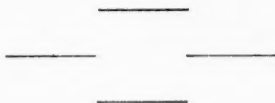
To clear up matters, somewhat, a reconnaissance of mounted troops was directed towards Jidballi, and after some desultory fighting, it appeared pretty clear that the enemy was in considerable force in the neighbourhood.

<sup>1</sup> Nominally his rule extends as far south as Obbia, but practically the Sultan of the latter place does not acknowledge allegiance. The Sultan of Obbia was more amenable to our wishes than Osman Mahmoud, inasmuch as we had been very active at Obbia during the last operations, and the present Sultan had himself been set up by the Italians in place of his father.

Doubtless the Mullah had now perceived the danger of remaining longer quiescent; but whether he intended to try conclusions with that portion of our field force at Eil Dab, or whether his occupation of Jidballi was merely to cover his movements north, was not, of course, evident. In any case, it appeared expedient to divert the 1st Brigade from the intended southern movement and to call it up north.

This was done, and the whole force united at Badwein on 9th January.<sup>1</sup>

At dawn the day following, advance was made, with the infantry in *échelon*, or open square formation, thus:—



guns behind the front face, mounted troops on left (greater portion) and right rear, baggage, rations, water-tins, etc., being left behind in zariba.

#### IX.—ACTION OF JIDBALLI.

On nearing Jidballi, the enemy were reported in force, and the mounted troops on the left were ordered to make a wide sweeping movement to their (the enemy's) rear.

The advance was continued over more or less open terrain till within some 800 yards of the position (a depression in the ground) when, upon a halt being made, the Dervishes opened fire. Reply was made by the guns, and shortly after by the infantry. The Dervishes thereupon vacated their position and rushed forward to the attack. They could not, however, face the magazine and Maxim fire poured into them, and fled after a few minutes, not having reached within some hundreds of yards of the square. The mounted troops pursued for 18 miles. In this action the enemy lost some 1,000 killed, 200 prisoners, and 400 rifles of sorts. Our casualties amounted to 58 all told, including 3 officers killed: Lieutenant Bowden-Smith, in the square; Lieutenant Welland, R.A.M.C., shot and speared in a hand-to-hand fight which the mounted men on the right had with some of the Dervishes; and Captain Lister, 10th Hussars, most unfortunately killed when taking a message to Lieut.-Colonel Kenna's men on the left. Though the Dervish strength at Jidballi was probably 5,000, the Mullah was not himself there, nor was the action more than one against a strong detached portion of his army. Nevertheless, the result was a fairly sharp blow to his prestige. Numerous defections from his ranks ensued, and had it been possible to follow up the victory with greater celerity, some far-reaching results might have been early attained.

Unfortunately the force had to halt for a couple of days owing to supply and water difficulties. The Mullah himself had not been far away behind Jidballi, and according to deserters he had now fled to Halin. This might either presage retirement south again towards his old quarters, with ultimate attempt to get away *via* the Mudug,

<sup>1</sup>The Galadi garrison had been previously withdrawn.

or it might be his intention to go north. However, after pushing forward a force to Hudin, which encountered no enemy, a general movement of our troops was made S.E. and S., the mounted troops and 1st Brigade being directed on Gerowai, the 2nd Brigade and headquarters following to Darialeh. Quantities of live stock were captured, but the enemy not being met with during the above movement, the 1st Brigade and mounted troops were directed on Halin and the 2nd Brigade on Gaulo.

On arrival at these places it was evident that we were on the track of the Mullah's line of retirement; but it was found that he had already moved up to the "Sorl," *via* the Anane Pass, and was now doubtless en route for Jidali or the Gebi District in the north.

#### X.—CONCLUSION OF FIRST PHASE OF OPERATIONS.

At this point (beginning of February) may be said to have concluded the first stage of the operations. The Mullah with his main force had got away, but his numbers were greatly thinned, and he had lost, or was now losing, an enormous number of camels, sheep, and other stock. Many of these had been left behind by him grazing on the Southern "Haud" or vicinity, and apart from the number already seized by the mounted troops and 1st Brigade, rounding-up parties of our men were now sent out from Bohotleh and elsewhere, and Ali Yusuf's men from Obbia were also at work to some purpose.

#### XI.—ARRANGEMENTS FOR SECOND PHASE OF OPERATIONS.

The second phase of operations, while leaving the 1st Brigade in the Nogal as a stop to the south, contemplated as strong a movement on new lines as the available remaining transport would allow, a breathing space of some three weeks ensuing between the two phases.

During these three weeks the mounted troops<sup>1</sup> and 2nd Brigade were withdrawn from the Nogal and given a short rest, the former being refitted with horses. Every means was tried to ascertain the Mullah's whereabouts in his new quarters, and Intelligence Officers were sent to Hais and L. Khorai, which latter, next to Bosaso (in Italian territory), was the most likely place for news to filter through. Ships of war also visited Bosaso and Ras Rafun on the coast, and a body of levies were formed and armed in the Musa Abukr country, under Lieut.-Colonel Melliss, U.C.

Meanwhile the Tribal and Gadabursi Horse, having come to the end of their 3 months' engagement, were disbanded, with the exception of 100 picked men.

By the first week in March the fresh preparations were complete, and a start forward was made.

#### XII.—SECOND PHASE AND MOVEMENT INTO N.E. ZONE.

The scheme was as follows:—A column under Major Brooke, 7th Hussars, consisting of the Indian Mounted Infantry, some of the Bikanir Camel Corps, and an infantry support, was to move out north from Eil Dab, and unite near El Afweeneh with a column under Brigadier-General Fasken, moving east from Las Dureh. General

<sup>1</sup> Except the Somali M.I. left with the 1st Brigade.

Fasken's column comprised something over 1,000 infantry, with 600 mounted men (British M.L., Bikanir Camel Corps, and Somali Irregulars).

On arrival at El Afweeneh, and nothing intervening, further forward movement would be arranged.

The junction was made on the 16th March, and the telegraph run out to El Afweeneh.

It was now arranged that Major Brooke's column should remain near Danan and act as a stop in that direction, while General Fasken's column, in conjunction with Colonel Melliss's levies, would operate northwards to Durdar Jidali, and then if necessary E. and S.E. to the Gebi.

Durdar Jidali was reached on the 21st without any encounter with the enemy beyond the discomfiture of a raiding party, which resulted in 50 dervishes being killed and the capture of 23 rifles, besides stock.

It transpired that the Mullah, on receiving news of the further advance of our troops, had retreated precipitately towards Buran from Kalgoraf, where he himself had actually been, though many of his following had been at Durdar Jidali.

Colonel Melliss's levies were now left to hold Jidali, and the column pushed on south to Ausaneh, the mounted troops proceeding further to Higli Gab. In doing this they struck upon the direct line of the Mullah's retreat, every testimony of a hurried move on his part being in evidence.

Some captures were made from Higli Gab, but the Mijjarten and Warsangeli<sup>1</sup> showed little sign of co-operation. This, coupled with the ever-diminishing transport and the nearness of the spring rains, seemed to offer little results to any further advance of the force.

It was accordingly determined to concentrate at Badan (S. of Las Khorai), whence the infantry should march to Las Khorai to embark for Berbera, and the mounted troops commence to return by land the way they had come.

Whilst these movements were in progress, however, circumstances ensued which caused a prolongation of offensive operations, and which led to a further effort on the part of our mounted troops.

The instructions for the infantry to proceed to Berbera were countermanded, and they were ordered to stand fast at L. Khorai. Concurrently all the mounted troops (including those under Major Brooke) were to assemble at Jidali for renewed movements towards Italian territory.

The withdrawal of the 1st Brigade from the Nogal was also countermanded. This brigade had already been for some time in difficulties regarding transport and supplies, but had been very active in patrolling and reconnoitring work, and had, among other captures, taken several thousand further head of live stock.

### XIII.—CAPTURE OF ILLIG.

Besides the final movement with the mounted men, it was arranged to simultaneously bring off a descent upon Illig.

This place is a comparatively unimportant fishing and trading village on the East Italian Coast of Somaliland. The Mullah had,

<sup>1</sup> A comparatively small tribe, adjoining, but more or less independent of the Mijjarten.

however, possessed himself of the spot so long ago as October, 1903, and from there carried on an extensive trade in the disposal of skins, with possibly gun-running either there or in the vicinity. He had left a strong garrison, and had erected some formidable works. It also afforded him a *pied-à-terre* should he move south to the Mudug between the Nogal and the sea—a possible route. The village had been fruitlessly bombarded by the Italians in the winter, and several subsequent proposals against the place had come to naught.

The Naval Commander-in-Chief of the E. Indies Squadron (Rear-Admiral Atkinson-Willes) now agreed to attack, with the assistance of a detachment of the Hants Regiment. The expedition left Berbera on the 16th April, and as the enterprise affords some interesting reading, it is treated at some length separately in an Appendix (A).

#### XIV.—FURTHER FINAL MOVEMENT IN N.E. ZONE.

The mounted troops meanwhile, with a support of infantry, had assembled at Badan, and were pushed forward by Lieut.-Colonel Kenna as vigorously as the spring rains, now in full force, and the available transport permitted.

On the 26th Biliyu was reached, and the infantry support left there. The mounted troops thence pressed on 50 miles farther south to Kheman, and some capture of stock was made; but the Mullah, it was evident, was not within practicable striking distance, and the troops returned to Biliyu, thence to Las Khorai. The latter place was now evacuated, and the campaign concluded with this and the recall of the 1st Brigade from the Nogal.<sup>1</sup>

#### XV.—CONCLUSION OF THE OPERATIONS.

As for the Mullah himself and what remained of his following after our operations had shifted him from place to place, he had apparently struck E. in front of Colonel Kenna, and then turned S. across the Sorl, which movement the rains had facilitated. The 1st Brigade had pushed up reconnaissances on to the Sorl, and had captured stock there, also coming upon isolated parties of dervishes. When this brigade finally left the Nogal, the Mullah moved round to Gerowai and the neighbourhood from whence he started at the commencement of the present operations.

#### XVI.—RESULTS AND FINAL REMARKS.

The net result of these latter have not, it is true, either resulted in the capture of our antagonist or in his final expulsion from British territory.

On the other hand, it is estimated that he has suffered very real losses, and has had his prestige practically broken.

To absolutely extinguish an adversary of this description appears impossible, unless one can really limit his sphere of action or move our more cumbrous fighting organisation more rapidly than he can travel with his tribesmen. The pushing forward of a railway appears the

<sup>1</sup> As regards the Abyssinians, they ultimately had reached with their advanced parties to the neighbourhood of Gerlogubi, and commenced to return in beginning of April.

only means to gain this double end, and moreover to deny power to fresh Mullahs should this present one be extinguished.

But when one comes to the question of such a costly undertaking as railway construction matters have also to be considered from the point of view of utility of the country, and a general discussion thereupon is not within the scope of this paper.

Meanwhile a temporary Indian garrison has now been left in Somaliland (posts at Eil Dab and Bohotleh being still retained) until Brigadier-General Swayne has got into trim a scheme of defence on the basis of tribal organisation, either with or without outside levies. Much may be done—as on the Indian frontier—in the matter of playing off one tribe against another, and no one understands or has the confidence of Somalis better than the Commissioner-General.

NOTE.—In many quarters it has been held that anticipations as to the Mullah's power being practically broken were unduly optimistic. At the time of writing, however, latest reports in the newspapers fully bear out this assertion.

## APPENDIX A.

### CAPTURE OF ILLIG.

The force detailed for the capture of Illig, under the direction of H.E. the Naval Commander-in-Chief East Indies Squadron, comprised H.M.S. second-class cruisers "Hyacinth" (flag-ship) and "Fox," the third-class cruiser "Mohawk," and 125 men of the 1st Bn. Hants Regiment, under Major Jackson, D.S.O., with a few further military details.

From reports of earlier inspections of Illig and vicinity, it was determined to effect the landing at the mouth of the Gullule River, some  $4\frac{1}{2}$  miles north of Illig, and thence make a flank advance upon that place. The surf on this coast always renders landing a difficult matter, but in the case of Illig itself, dervish entrenchments crowned the heights and covered the beach, the heights themselves also presenting an exceedingly steep ascent.

It was decided that the "Mohawk" should precede the other two ships and give an anchoring point for the latter, which should arrive after dark with lights out. It was calculated that the dervishes would not, in merely seeing one ship arrive (as had often happened before), anticipate a landing.

Pursuant to these arrangements, the "Mohawk" arrived off the Gullule River on the afternoon of 20th April, the "Hyacinth" and "Fox" duly following.

At dawn on the 21st, the landing commenced, the "Mohawk's" boats making a feint of landing on the beach near Illig itself. Before describing the operations it is necessary to give some account of the spot selected. As before remarked, nowhere is the shore easy for disembarkation, but in the Gullule gorge there was known to be a practicable path up on to the heights which run along to Illig. It was proposed that an advanced party should move up this gorge, establish themselves on the heights, and then the remainder of the force would follow either the same way or straight up the cliffs from the beach as expedient.

The advanced party, 100 seamen from the "Hyacinth," under command of the flag-captain, Captain the Hon. H. Hood, covered by

boats mounting field guns and Maxims, encountered no opposition, and assembled on the beach without mishap. They were towed ashore by steam launches, which, on account of the shallow water, had to slip boats when about 30 yards from the shore. The boats were then backed in and anchored up to within about 20 yards, from which point the men had to wade. Progress up the gorge was not so easy as was hoped, but no enemy were met with, and the heights were successfully crowned about three-quarters of an hour after leaving the ship. At this point the enemy were first seen, some 20 of his scouts being observed in the distance. An advanced picket was now thrown out to an eminence on the right, communication with the flag-ship established by signal, and the remainder of the force awaited.

This latter followed, part along the route which the advanced party had taken, and part by the steep ascent direct up the cliffs from the beach.

The force was formed up by 7.40 a.m. in the following order:—Seaman battalion ("Hyacinth," "Fox," and "Mohawk") on the right, marines in the centre, and Hants detachment on the left, each body finding their own fighting line, supports, and reserves; 3 tripod Maxims slung on poles were on the right and 1 with the Hants; stretcher parties and pioneers with units.

The advance was made on a front of about three-quarters of a mile, the flag-captain assuming command of the Naval Brigade (seamen and marines), which consisted all told of just under 600 men; the Hants numbered 120 odd.

The plateau, upon which the advance was made, was very hard and rocky, level except for occasional folds and undulations. The ground sloped away from the cliffs.

At 8.5 a.m. the enemy's scouts were observed to retire, and a short halt was called. The advance was then continued without incident for 40 minutes, when the enemy's scouts retired into the works, which now showed up. Our ground and advance scouts arrived at the outlying "gurgis"<sup>1</sup> at about 9 o'clock; shots were exchanged between our scouts and the enemy, and a round was fired by a gun belonging to the latter. Very shortly afterwards firing became general, and two more rounds were fired by the gun. The distance from the works was now about 600 yards.

The attack then advanced straight forward, alternately lying down to volley fire under cover of the outlying huts and folds of the ground, and then making steady advances.

Having thus approached to 80 or 100 yards the whole line rushed the position, the extreme right having previously closed in and wheeled round so that the works were taken end-on. (See sketch.)

The Hants finally entered somewhere near "F" on the sketch, the bluejackets, led by Captain Hood, at "G," where there was a second embrasure for the gun. The Dervishes were seen running down through their communicating walls and passages to get out S. and S.W., but being closely pursued were many of them shot down. The place was cleared out in about ten minutes.

Two companies of seamen were at once assembled and advanced over the country S.W., where they followed the fugitives up for about 1½ miles, the ships firing upon those anywhere near the cliffs.

<sup>1</sup> Native shelters or huts.

## ROUGH SKETCH OF DERVISH POSITIONS AT ILLIG.


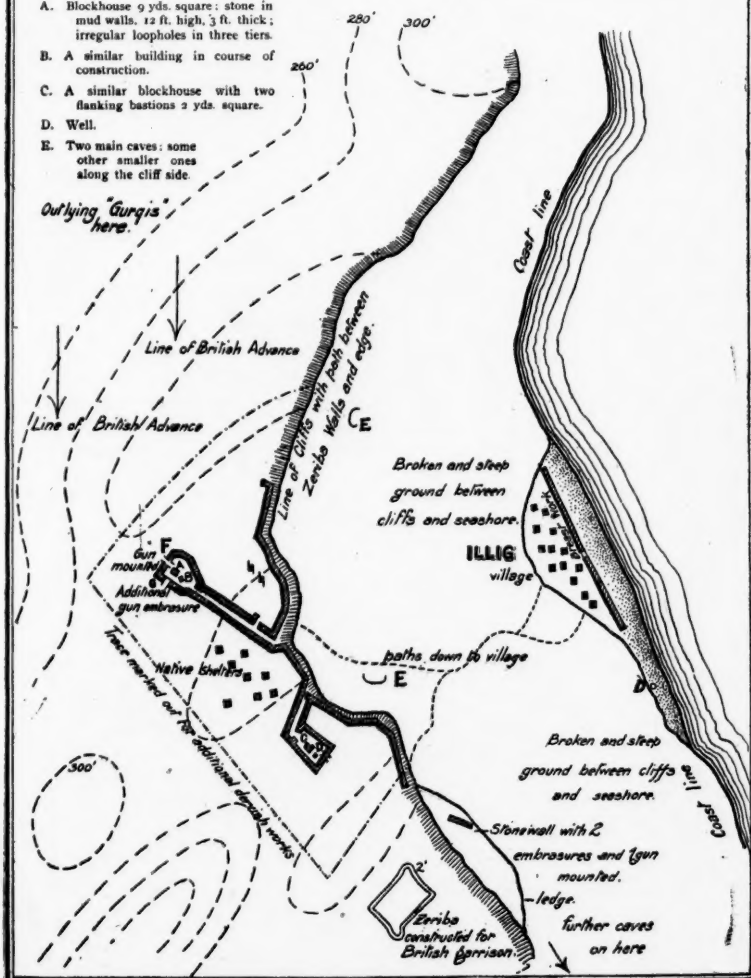
(TAKEN FROM A SKETCH BY CAPTAIN, NOW MAJOR, LESSLIE, R.E.)

Dervish Works shown thus 

Walls generally 6 ft. to 8 ft. high,  
3 ft. thick, of big loose stones in  
part, and of earth and sand banked  
in between the stones in part.

- A. Blockhouse 9 yds. square; stone in  
mud walls. 12 ft. high, 3 ft. thick;  
irregular loopholes in three tiers.
- B. A similar building in course of  
construction.
- C. A similar blockhouse with two  
flanking bastions 2 yds. square.
- D. Well.
- E. Two main caves; some  
other smaller ones  
along the cliff side.

Scale of Paces. (approx.)

A large number of the enemy had, however, collected in caves on the cliff sides, in a small work, mounting a second gun just below the cliff top, 100 yards from south end of the main position, and near the breastwork in front of the village. (See sketch.) Parties were sent to clear out these people, which was rather a ticklish job, and the village was finally burnt, operations coming to a close about noon.

It was decided to leave the Hants, 50 marines, and 4 Maxims, with their detachments, on shore, and to erect a small stone zariba for them, food and water being landed from the ships.

Our loss in the day's work amounted to 3 seamen killed, 11 wounded (10 seamen and 1 marine); 2 of the killed and 1 of the wounded were shot by a man concealed in a shelter behind the backs of the assaulting party as they were getting over the walls.

The enemy lost 58 killed (including some bodies found the day following) and 14 wounded.

In addition to the enemy's 2 guns (small ships' ancient 3-pounders), about 27 rifles of sorts were captured, with 2 banners.

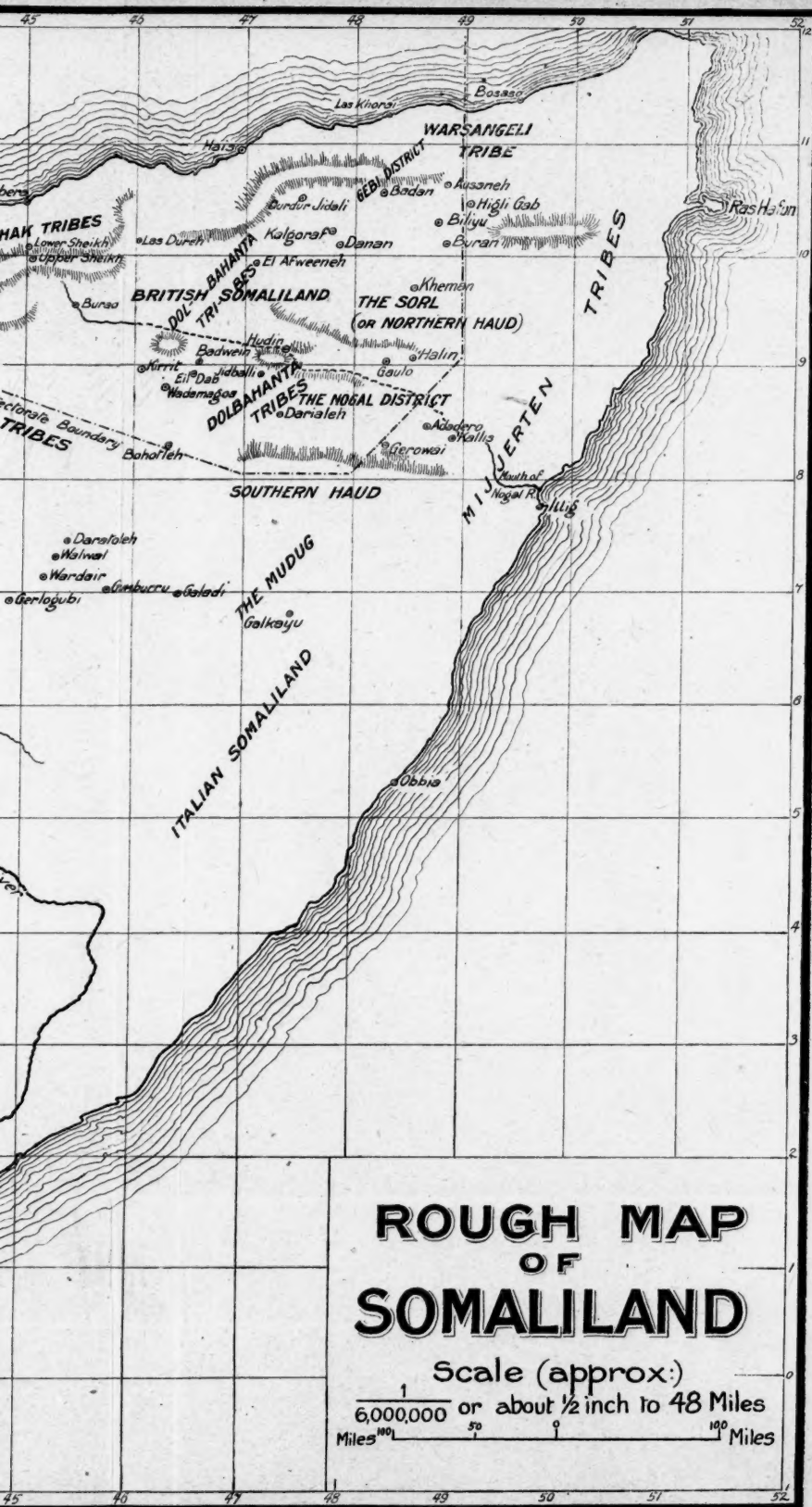
The appended sketch shows the nature of the Dervish fortifications, which were certainly quite formidable.

The force remained on shore for 4 days, during which various excursions were made to round up fugitives, and the fortifications were demolished. In this latter task Italian sailors from the "Vulturno" assisted, this ship having arrived the day after us and anchored off Illig.

Messages were despatched to Ali Yusuf at Obbia to get him to occupy Illig with some of his tribesmen, but the force had to leave before this was assured on account of the rise of the S.W. monsoon. As it was, the re-embarkation was attended with some difficulty, a steam launch being stove in and the last boat, conveying the rear guard, being swamped. This occurrence delayed matters till near night-fall, and the rear guard of 25 men had to temporarily re-occupy the heights while fresh arrangements were made, the men ultimately coming off on a line.









# INSTRUCTIONS FOR THE RUSSIAN ARMY RESPECTING THE LAWS AND CUSTOMS OF WAR ON LAND.<sup>1</sup>

*By Imperial Sanction, 14/27 July, 1904.*

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## I.—INSTRUCTIONS FOR OFFICERS.

### 1.—*On the Qualifications of Belligerents.*

1. IN time of war the enemy's Armies, Militia and Volunteer Corps are regarded as belligerents.

2. Volunteer Corps and Militia, however, are recognised as belligerents only when commanded by an officer who is responsible for his subordinates, when they have a visible and clearly recognisable distinctive emblem, carry arms openly, and conduct their operations in accordance with the laws and customs of war.

3. The inhabitants of a hostile country may<sup>2</sup> also be regarded as belligerents, if they have taken up arms on the approach of our troops without having had time to organise themselves into corps of Volunteers, provided that they respect the laws and customs of war.

### 2.—*On the Qualifications of neutrals.*

4. Military ambulances and hospitals<sup>3</sup> are recognised to be neutral (non-belligerent and taking no part in hostilities) only so long as sick and wounded may be therein. Their neutrality ceases if they are defended by a military force.

5. The transport used for the conveyance of wounded, and all persons necessarily accompanying it, enjoy the rights of neutrality.

<sup>1</sup> These instructions are issued apparently in order to carry out Article 1 of the Hague "Convention with respect to the Laws and Customs of War on Land," which reads: "The High Contracting Powers shall issue instructions to their armed land forces which shall be in conformity with the 'Regulations respecting the Laws and Customs of War on Land,' annexed to the present Convention."—*Translator.*

<sup>2</sup> The Hague Regulations say "shall" ("sera" in the French text).—*Translator.*

<sup>3</sup> The Russian text uses the words "lazareti" and "gospitali" where the English and French versions of the Geneva Convention have "ambulances" and "hospitals." "Lazaret," however, includes the two organisations known in the British Army as "bearer companies" and "field hospitals." Where the Convention draws a distinction, as regards liability to capture of equipment, between ambulances and hospitals, the Russian text makes use of the expressions "field lazareti" and "traveling lazareti" ("poleviye i pokhodniye lazareti").—*Translator.*

6. The benefit of neutrality is accorded to the following while engaged in their duties:—All persons comprising the staff of hospitals and ambulances, doctors, officials, attendants, those employed in the transport of wounded, and military chaplains.

7. The persons designated in Paragraph 6 may continue to fulfil their duties in the hospitals and ambulances during our occupation of hostile territory, or may withdraw to their own Army.

The arrangements for the return of such persons will be made by the corps commander concerned; they are to be delivered to the outposts of the enemy.

As the equipment of hospitals remain at the disposal of troops in occupation, persons attached to these establishments cannot, in withdrawing, carry away any articles but such as are their private property.

The seizure of the equipment of an ambulance belonging to the enemy is forbidden.

8. Military hospitals, ambulances, and transport for wounded must be indicated by means of the red cross flag.

Each member of the medical and hospital staff of these organisations must have a white arm-badge with a red cross.

### 3.—On the Rights and Duties of Belligerents

9. Troops must respect the lives and honour of the inhabitants of the enemy's country, their families, and rights of property, as well as their religious convictions and ceremonies.

10. Possession may be taken of all movable property of a belligerent State, which may be used for military purposes, such as cash, funds, depôts of arms and provisions, materials for bandaging, etc.

Likewise troops may take possession of railway plant, telegraphs, telephones, steamers, and other ships, as well as depôts of warlike and other stores,<sup>1</sup> even though belonging to companies or private individuals.

11. It is prohibited in military operations:—

- a. To employ poison or poisoned arms with the object of causing hurt to the enemy, and weapons, projectiles, and material of a nature to cause superfluous injury.
- b. To declare that no quarter will be given.
- c. To make improper use of a flag of truce, the national flag, the military distinguishing marks, or the uniform of the enemy.
- d. To employ the red cross flag or arm-badge for the purpose of deceiving the enemy.
- e. To destroy or seize the enemy's property, except i. under circumstances laid down in Paragraph 10, or ii. when military exigencies render it imperative.
- f. To attack or bombard a town, village, habitation, or building not occupied by the enemy, nor by depôts of material necessary for the prosecution<sup>2</sup> of the war.
- g. To pillage a town or place even when taken by assault.

<sup>1</sup>The words "and other" are not in the Hague Regulations.—Translator.

<sup>2</sup>The words "depôts of material necessary for the prosecution of the war" are not in the Hague Regulations.—Translator.

12. All pillage is forbidden under the penalty of death.
13. The seizure, destruction, or intentional damage of the property of religious, charitable, and educational institutions, and of those of arts and science, and of historical monuments, is prohibited.
14. The commander of an attacking force must take care to warn the inhabitants of the intended bombardment of a town or place unless military exigencies (for instance, the necessity of surprise) render it impossible for him to do so.

15. In sieges and bombardments all possible means must be taken to spare churches, museums, educational and charitable institutions, hospitals, places where the wounded are collected, etc., always provided that these places are not used at the same time for military purposes.

All such buildings should be indicated by particular signs, which should previously be notified to the assailants.

16. Any compulsion of the population of occupied territory to take part in military operations against their own country, or any pressure on them to take the oath of allegiance to the hostile Power, is prohibited.

17. Contributions (money taxes) can be collected only by the written order of the Commander-in-Chief of the Army. For every payment a receipt must be given.

18. Requisitions (compulsory supplies) in kind, or in service, can be demanded from the inhabitants only by the authority of the Commander-in-Chief of the Army or of the commander of a military district (commanding the troops in the district); or, in cases not admitting of delay, by the authority of a corps or divisional commander.

19. Requisitions of service must not be of such a nature as to involve the population in the obligation of taking part in military operations against their own country.

20. Requisitions and services should, as far as possible, be paid for in ready money; failing this, a receipt should be given (with the signature and seal of the commander of the detachment).

#### 4.—On the Wounded.

21. Wounded and sick soldiers shall be entertained and taken care of, to whatever Army they may belong.

22. The exchange of wounded may be carried out by the commander of an Army, but only with the consent of both belligerents.

The enemy's sick and wounded left in our hands shall be sent back to their own country if recognised, after recovery, as incapable of serving; the others may be sent back on condition of not again bearing arms during the continuance of the war.

23. Commanders of Armies will notify to the inhabitants of the country that they must afford all possible aid to the wounded of both sides; those who have entertained and taken care of wounded shall be exempted from the quartering of troops, as well as from a part of the contributions of war which may be imposed.

24. After a battle, commanding officers and higher authorities will take measures to protect from robbery both those of our own and the enemy's wounded who may still be on the field of battle.

Persons found guilty of robbing the wounded with violence will be dealt with as guilty of brigandage.

### 5.—On Prisoners of War.

25. Both combatants and non-combatants are liable to capture; both have the right to be treated as prisoners of war.

26. Newspaper correspondents, sutlers, contractors, etc., who fall into the enemy's hands, and whom the latter think fit to detain, have the right to be treated as prisoners of war, provided they can produce a certificate from the military authorities of the Army they were accompanying.

27. The reception, maintenance, and safe custody of prisoners, and their further disposal, are the duties of the corps commanders, and are carried out under the direction of the chief of the staff of their corps.

28. Prisoners must be humanely treated and afforded every facility for the exercise of their religion. They shall be treated as regards food and maintenance on the same footing, rank for rank, as the troops of the Russian Army.

29. Every prisoner is bound to declare his true name and rank, and if he disregards this rule he is liable to a curtailment of the advantages granted to the prisoners of his class.

30. Prisoners of war are subject to the laws, regulations, and orders in force of the Army into whose hands they have fallen, and in the event of any act of insubordination, to such measures of severity as may be necessary.

31. An officer in command of an armed party detailed as escort to prisoners, is in the position of an officer commanding a post, and will act in accordance with the Regulations for Duties in Garrison (Articles 198-210).

32. The personal belongings of prisoners of war, except arms, horses, and military papers, remain their property.

33. Prisoners who, after a successful escape, are again taken prisoners, are not liable to any punishment, but will be subjected to a stricter surveillance.<sup>1</sup>

34. Escaped prisoners, recaptured before they have succeeded in rejoining their Army, are liable only to disciplinary punishment.

35. The wills of prisoners of war will be drawn up and received for record on the same conditions as those of soldiers in our Service.

36. Should a prisoner of war die, a death certificate will be made out, and at the burial due regard must be paid to the grade and rank of the deceased.

### 6.—On Flags of Truce.

37. The bearer of a flag of truce (*parlementaire*) is an individual who is authorised by one of the belligerents to enter into communication with the other, and who comes with a white flag.

The bearer of a flag of truce has the right to inviolability, as have also (a) the trumpeter (bugler, drummer), (b) the flag bearer, and (c) the interpreter, who accompany him.

38. The commander to whom a bearer of a flag of truce is sent is not obliged to receive him under all circumstances.

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<sup>1</sup>The words "but will be subjected to a stricter surveillance" are not to be found in the Hague Regulations.—*Translator*.

39. He will take all measures necessary to prevent the bearer of a flag of truce from taking advantage of his mission to obtain information. In case of abuse he has the right to detain the envoy temporarily.

40. The bearer of a flag of truce loses his rights to inviolability if it is proved that he has taken advantage of his privileged position to instigate treachery.

41. The raising of a white flag by the enemy during an action does not suspend the course of the fight, but the person holding the flag, the *parlementaire*, and those who accompany him, are not to be fired on. When the *parlementaire* approaches our lines, he is to be directed to the commander to whom he has been sent, or to the senior officer. The fighting ceases only when the enemy's troops lay down their arms and fulfil the conditions prescribed.<sup>1</sup>

#### 7.—On Spies.

42. Spies are persons who, acting clandestinely or on false pretences, seek to obtain, in the zone of operations of our forces, any kind of information with the intention of communicating it to the enemy.

43. Spies cannot be punished without previous trial.

44. The following are not considered spies:—

1. Soldiers (not in disguise) who have penetrated into the zone of operations of a hostile Army to obtain information.
2. Soldiers and civilians carrying out their mission openly, charged with the delivery of despatches intended for their own Army or for that of the enemy.
3. Individuals sent in balloons to maintain communication between the various parts of an Army or of a territory.

#### II.—INSTRUCTIONS FOR THE RANK AND FILE.

1. Thou fightest with the enemy's forces and not with the peaceable inhabitants. The inhabitants of a hostile country may also be enemies, but only when they are seen by thee with weapons in their hands.

2. Kill the enemy in fair fight; do not kill unarmed men who ask for quarter.

3. Respect the religion of others and their places of worship.

4. Do not insult peaceful inhabitants of an enemy's country, do not damage or steal their property, and prevent thy comrades from so doing. Harshness towards the inhabitants only increases the number of our enemies. Remember that a soldier fights for Christ and the Tsar, and should, therefore, bear himself as a Christian warrior.

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<sup>1</sup> In the war of 1877-78, during General Gourko's movement towards the Shipka, our riflemen, seeing the white flag of truce of the Turks, stopped firing and began to parley; the Turks, however, after some time, opened fire again without any warning. (Military Historical Records, Section II., Part No. 4,804, p. 93.)

5. When a fight is over succour the wounded, and endeavour to the utmost of thy power to help them irrespective of nationality. The wounded are in no sense to be regarded as thy enemies.

6. Prisoners must be humanely treated, their religion must be respected, they must be protected from oppression and robbery.

7. For a soldier to rob prisoners is most disgraceful, and to rob the killed and wounded is even more so. Those guilty of such offences are liable to the same severe penalties as are decreed for highway robbery.

8. If thou shouldst be placed in charge of prisoners, protect them from annoyance by strangers. Should a prisoner try to escape, prevent him, and call for aid; as a last resource use thy weapons.

9. Tents and houses where sick and wounded lie have always a white flag with a red cross; do not fire at or break into these places.

10. Do not harm persons, even though in the uniform of the enemy, who wear a white badge with a red cross on their arm; they tend the sick and wounded, and restore them to health.

11. If thou seest an enemy with a white flag, do not fire on him, but direct him to an officer; he is the bearer of a flag of truce, a person who must not be harmed.

## A BRIEF HISTORICAL SKETCH OF THE IRISH INFANTRY REGIMENT OF DILLON AND THE IRISH STUART REGIMENTS IN THE SERVICE OF FRANCE, 1690-1791.

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*Continued from January JOURNAL, p. 63.*

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IN May, 1698, the French Army commenced the evacuation of Spain, and the two battalions of Dillon's Regiment went into cantonments at Perpignan. Many military changes followed the peace of Ryswick. The Limerick Regiment, one of those which followed James to France after the capitulation of Limerick (1691), was now incorporated with Dillon's,<sup>1</sup> which regiment, however, was reduced in June of the same year to a single battalion of 700 men, in 14 companies of 50 men each, 1 being the Grenadier Company.

The opening years of the 18th century saw many improvements introduced into the uniform of the Army, which from this date began to assume what is now called the "military type." The infantry all received the three-cornered cocked hat, laced, and ornamented with a white or black cockade. The coats and vests were of a uniform pattern in each regiment, while white or coloured hose, buckle shoes, belts for the sword and ammunition pouches, powdered hair and queues became *de règle*. Muskets and pikes had since 1692 given place to muskets and bayonets, while the order of battle had been altered from a depth of six ranks to one of four. At this period it appears the Irish and Swiss Regiments wore uniforms of a madder-red colour, while those of all the French infantry were light grey. In 1699 the number of companies was reduced from fourteen to twelve—the same as the French battalions.

In 1701 the War of the Spanish Succession broke out, and in the spring the Regiment received orders to proceed by forced marches to join the Army in Italy. It crossed Mount Cenis to Turin, where it embarked on the Po, down which it proceeded to Cremona, joining the main body of the Army, encamped, under the command of the Marshal de Catinat, on the Oglio, about the middle of July. The regiment was placed in the brigade of Auvergne, and the colonel,

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<sup>1</sup>The Irish troops who came to France with James, in 1691, only received the same pay as the French; but the three original regiments of Mountcashel, Dillon, and O'Brien, received to the end the higher rate secured to them, when they came to France in 1690.

Count Dillon, having been detached for duty with the Army in Germany, the command was transferred to Lieut.-Colonel Mannery. On the 24th August the Regiment was reviewed by the Marshal de Villeroy, who had been appointed to the command of the Army in place of Marshal Catinat, who had been recalled in disgrace.

On the 29th August the French Army crossed the Oglio. On 1st September the advance guard, after having crossed the Trezano Canal, at mid-day arrived before Chiari; Villeroy being under the belief that Prince Eugene had fallen back, leaving only a weak rear guard in the town to delay the march of the French. He was, however, cruelly undeceived, for the Prince, in reality, had made his position in Chiari so strong that it is doubtful if Villeroy could have dislodged him, no matter how superior in force he might have been. Some 500 Imperialists occupied a large church, as an advance post, about half a mile outside the town. The duty of dislodging them was entrusted to the brigades of Auvergne and Normandy, which were to attack from the right, while those of Anjou and the Royal-des-Vaisseaux attacked on the left. In spite of the difficulties of the ground, which was much cut up, and the sharp fire opened upon them both from the church and the ramparts of the town, the brigades advanced steadily and in good order, the enemy falling back from their position before them. Emboldened by their success, the French followed up rapidly in pursuit; behind the church they came upon a wide Roman road running along the top of an embankment and leading straight to Chiari. The Dillon Regiment, pushing on along this, found themselves suddenly received with a heavy fire of case from six guns, which were unexpectedly unmasked, causing them heavy loss; unchecked however, they were only brought to a stop when the head of the column found itself in front of well-defended entrenchments and a wide and deep moat which skirted the walls of the town. Nor was the attack more successful in other quarters, the troops finding themselves entangled in a mesh-work of formidable obstacles, from which the Imperialists kept up a murderous fire. As evening was approaching, and the Marshal de Villeroy learnt at last that the town was held by the whole of the enemy's infantry, with their cavalry drawn up in rear in battle order, he gave the order to retreat, having lost over 2,000 killed and wounded, including many distinguished officers.

Dillon's paid dearly for the unfortunate mistake, their Grenadiers losing heavily. Lieut.-Colonels Mannery and Lord Kylmallock were killed; three captains were mortally and fourteen other officers wounded, sixteen cadets of the colonel's company and one hundred and thirty Grenadiers and soldiers placed *hors de combat*. Major Lally particularly distinguished himself; nothing daunted by the severe check they had received, he was leading his men, who were as eager as himself to retrieve the fortunes of the day, again to the attack, when Marshal de Villeroy came up and himself gave them the order to retire, telling Lally that "*le régiment avait fait tout ce que l'on peut attendre des plus braves troupes et qu'il n'y avait déjà que trop de mal de fait.*" The lieut.-coloncy, rendered vacant by the death of M. Mannery, was conferred on Edward Dillon, who had been in command of the disbanded 2nd Battalion, Major Lally waiving his claims to the promotion in view of the other's seniority to him. In November the Army recrossed the Oglio, and on the 9th December fell back on the Po.

On the 13th January, 1702, the Dillon Regiment took up its winter quarters at Cremona, where it soon had a fresh opportunity of greatly distinguishing itself.

The celebrated attempt against Cremona by Prince Eugene was the first great military event in Italy in 1702. The Governor of the city, then belonging to the Spanish dominions in Northern Italy, was Don Diego de la Concha, an experienced and energetic Spanish soldier; it was well fortified with ramparts, bastions, moats, and a strong citadel, and contained a vast quantity of military stores. Marshal de Villeroy, as being in supreme command of the French and Spanish forces, made it during the winter his headquarters. The garrison consisted of twelve battalions and twelve squadrons, all French except two battalions of Irish troops—Dillon's and Bourke's, which are said to have at that time only mustered 600 bayonets between them.

The capture of the city, owing to the presence within its walls of the Marshal and many of the principal officers of the Allied forces, was a matter of the first importance to Prince Eugene, who directed all his efforts to some method of surprising the town. Chance favoured him, as, in spite of the Marshal's own efforts, the discipline among many of his subordinate officers, and consequently among the troops, was very lax; but few sentries were posted, and no attempts were made to patrol the roads leading to the city.

In the Imperialist camp happened to be one Antonio Cossoli, member of a Cremona family, who were adherents of the House of Austria, and one of whose brothers was rector of the Church of Santa Maria Nuova, which stood not far from the centre of the town. Close to the priest's home was a large sewer, which led outside the walls, the entrance being closed by an iron grating. At the request of Father Cossoli this grating was removed, and the sewer, which seems to have fallen into disuse and become choked, was by order of the Governor thoroughly cleaned out. The next step was the making of a passage from the sewer into the cellar of the priest's house, which seems to have been skilfully effected without any suspicions as to what was going on being raised. Between the 20th and 31st January some four hundred Imperial Grenadiers were introduced into the town in small parties through the sewer, and lay concealed in the priest's house. During the night of the 31st, Prince Eugene himself, with two strong columns, and before daybreak, was in position before the gates of Sainte Marguerite and Ogni Santi, without being discovered.<sup>1</sup> At daybreak the troops concealed in the priest's house sallied out under the orders of a Captain MacDonnel, an energetic Irish officer in the Imperial service,<sup>2</sup> surprised and overpowered the French guards on the gates and opened them to their comrades. Before any effective alarm was raised the Prince and his troops were

<sup>1</sup> Marshal de Villeroy seems to have suspected some forward movement on the part of Prince Eugene, and had given orders that the road to Ostiano, in particular, should be patrolled all night; had the order been carried out, Eugene's surprise of the town would have been rendered impossible.

<sup>2</sup> Captain James MacDonnel, who died in October, 1766, a Count of the Empire, Imperial Chamberlain, a General and Inspector-General of the Guard.

masters of the leading squares and the adjacent streets, including the great street which separated half the garrison of the town from the other half. The Marshal, whose quarters lay in that part of the city towards the Sainte Marguerite gate, had enquired more than once during the night if there was any information about the enemy, receiving replies to the effect that there was none, was now aroused in the early morning by the sound of firing and an attendant rushing in to say the Imperialists were in the town. Hurriedly dressing himself and recognising that treachery must have been at work, de Villeroy, first burning his correspondence and cypher, mounted his horse, but was almost immediately surrounded by some of the enemy, and would probably have been killed, but that he was fortunately rescued by Captain MacDonnel, who made him a prisoner,<sup>1</sup> and for the time being lodged him in a guard-house in the Great Square or Place d'Armes as a place of safety. Meanwhile the Imperialist column, which had entered by the Ogni-Santi gate, led by Prince Eugene in person, debouched on the Place d'Armes, where they were met by a heavy fire from a battalion of the Royal-des-Vaisseaux, which happened to have assembled early in order to be reviewed by their colonel, the Chevalier d'Entraques, before his departure for Paris. Although little more than two hundred strong, the regiment opposed a firm front to the Imperialists, and for a time held them in check. Seeing this, de Villeroy made several attempts to induce MacDonnel to release him, offering him among other things the command of a cavalry regiment in the French service, and gradually increasing his offers, until MacDonnel began to suspect who his prisoner was, having been ignorant up to that time of his identity; he accordingly informed a superior officer in the square that there was a prisoner of distinction in the guard-house, and the Count de Stahremberg, coming up at the moment, de Villeroy, seeing no further hope of saving himself, confessed who he was, and steps were then taken to effectually secure him, due respect being paid to his rank.

The reverses of the garrison did not cease with the capture of the Marshal. The alarm had before this been given, and on all sides soldiers, scarcely dressed, without officers, were vainly striving to reach their allotted posts on the ramparts. With the exception of two, all the French generals were killed, wounded, or captured in their attempts to reach the Marshal, as well as a considerable number of regimental officers, including some thirty of Dillon's and Bourke's, while striving to reach their battalions from their lodgings, which seem to have been distributed all over the town, the Governor being also mortally wounded, so that the defence devolved upon a few field officers and captains. To the Irish troops belongs the honour of stemming the tide of the Austrian success and of turning what looked at one time a certain victory into defeat. The Po gate on the south side of the town, opening on to the bridge crossing that river, was held by a guard of the Dillon Regiment, consisting of a

<sup>1</sup> The following satirical quatrain was much in vogue after this occurrence, both in France and the Army in Italy :—

Français, rendons grâce à Bellone,  
Notre bonheur est sans égal :  
Nous avons conservé Crémone  
Et perdu notre général.

captain and twenty-five men, whose barracks, with those of the Bourke Regiment, were in the vicinity. While the column under Prince Eugene was moving on the central part of the town, the second, which had entered at the same time through the Sainte Marguerite gate under the command of Count de Mercy, consisting of a strong force of cuirassiers and infantry, marched with all speed along the ramparts, with orders to seize the Po gate, through which a third column, under the Prince de Vaudemont, was to be admitted, and thus completely cut off the retreat of the garrison. But at the first alarm the gate had been closed by the officer in charge, and he and his small detachment made so stubborn a resistance that de Mercy and his men were brought to a halt and the gate saved, for the two battalions of Bourke and Dillon, alarmed by the noise of the attack, soon came to the assistance of their countrymen, and although even then only some four hundred strong, as there were other detachments on guard duty in different parts of the town, they succeeded in driving the Imperialists back and out of the St. Pierre battery, which they had temporarily seized. Having regained possession of the battery, Captain Dillon, who had assumed command of the regiment in the absence of the colonel, soon rendered his position secure by means of barricades, and from this vantage ground proceeded to dislodge the Imperialists from the houses in the vicinity which they had occupied, and whence they still kept up a galling fire upon the Irish. From this time the fortunes of the day began to turn against the Imperialists, as the French troops, recovering from their first surprise, rallied to the call of their officers, and began to take the offensive in their turn.

Prince Eugene soon learnt of the failure of de Mercy to seize the important gate, and finding from reports of his officers that the position was now too strong to be forced, he endeavoured, through Captain MacDonnel, to induce the Irish to desert the French for the Imperial service; but in this he also failed, his offers being indignantly refused, while MacDonnel himself was made a prisoner. A large force of Austrian Cuirassiers, under the Baron de Freiberg, then made a final attempt to overcome the resistance of the Irish, charging down on the barricade on three sides, but the assault again completely failed. Their leader was killed, and a pair of their kettle-drums captured. With this last reverse the tide of war began to roll slowly back from the gate, which for so many hours had been the scene of so fierce and prolonged a struggle. At other points during the day the Irish troops highly distinguished themselves. With only a handful of men, Captain Lynch, of Dillon's, held the Mantua gate against all attacks of the Austrians, while Captain Stuart, of the same regiment, with some hundred men of his own and the Regiment de Beaujolais, held the redoubt at the bridge-head on the opposite side of the river to the Po gate against the column commanded by the Prince de Vaudemont, only evacuating it on receiving orders to retire across the river and destroying the bridge in face of the Imperialists as he did so.

About 7 p.m., after fighting which had lasted some twelve hours without intermission, Prince Eugene, finding himself completely baffled, and that his troops were too exhausted to carry on the struggle with any hope of success, gave the order to evacuate the town, "taken by a miracle," as was said at the time, "and lost by

a still greater one." All accounts of the period agree in according the honours of the day to the Irish Regiments. Brigadier-General the Count de Vaudrey thus wrote of their achievements in his report to the King: "Les Irlandais, qui avaient l'attaque de la droite, du côté du Pô, ont fait des choses incompréhensibles. . . . Ils ont arraché les étendards des Cuirassiers de l'Empereur, et se sont emparés de 2 paires de timbales qu'ils avaient à leur tête." But the Irish were well supported by their French comrades, after they had recovered from their first surprise. In the words of a contemporary writer:—"Ces troupes surprises dans leur lits, nus, privés de leur officiers, cherchant vainement à les joindre, combattent avec acharnement au milieu de ce chaos, pendant 12 heures, sans manger, sans boire, et sans vêtements, et c'est au cœur de l'hiver." Prince Eugene retired in good order, carrying away with him besides the Marshal, 80 or 90 other officers and some 400 soldiers; his own loss amounted to some 1,600 officers and men, of whom 1,200 were killed and wounded and the rest prisoners. Dillon's Regiment lost 6 officers killed, 29 wounded, and 30 made prisoners when attempting to join their men from their lodgings at the first alarm, and 130 men killed and wounded. For their great services on this occasion, Louis XIV. granted a month's pay to the men, while the officers received large gratuities.

Dillon's remained at Cremona until the spring. In the month of May it took part, under the command of its colonel, now returned from Germany, in the operations directed by the Duke de Vendôme, who had succeeded to the command of the Army, in order to raise the blockade of Mantua. On the 3rd July, Philip V., the young King of Spain, arrived and personally took over the command of the Allied forces. On the 26th July, early in the morning, Vendôme quitted the camp of Sorbolo with fourteen companies of Grenadiers (including Dillon's) and seventeen squadrons, and by a forced march succeeded in surprising near Santa Vittoria forty squadrons of Austrian Cuirassiers, commanded by General Visconti, completely routing them and driving them over the steep banks of the river Tassone. This brilliant *coup de main* cost the Imperialists six hundred killed, four hundred drowned, sixteen standards, three pairs of kettle-drums, their whole baggage and their tents, while all the Grenadiers returned mounted.

After this success Modena and Reggio opened their gates to the French, and Prince Eugene, forced to abandon the Seraglio, on the 4th August encamped to the south of the Po, behind the Zéro, one of the affluents of that river. He remained in this position until the 15th August, when was fought the battle of Luzzara.

On that day the Allied French and Spanish Army advanced with the intention of attacking Prince Eugene on the Zéro, and of investing the small town of Luzzara, occupied by the Imperialists. The force marched in two columns, in the right one being the Brigade of Piedmont, of which Dillon's formed part. After a long march, rendered more fatiguing by a broiling sun and the natural difficulties of the country, the camping ground for the night was chosen. The ranks were already broken, and the soldiers dispersing to get forage and rations, when it struck Major Lally (of Dillon's), who had not yet dismounted, to ride on a little to the front and look round from the embankment overlooking the Zéro; this he did, and discovered

the whole of the Imperialist Army drawn up for battle; he immediately gave the alarm.<sup>1</sup>

Prince Eugene's Army is variously computed at from 24,000 to 26,000 men with 57 guns. Vendôme's force was 35,000 men strong, but with only 37 guns, and he was apparently unable to bring more than two-thirds of his Army into action. There was only time to form indifferently well into line of battle to receive the attack of the Imperialists; the brigade of Piedmont, resting on the Po, formed the left extremity of the French line, and in all haste it proceeded to utilise the edge of a small wood as a *point d'appui*, and in this position received the shock of the principal column of the Imperialists composed of the *élite* of the Austrian infantry, led by the Prince de Commercy in person. Allowing the Austrians to approach within moderate range, the French poured in so heavy a fire that the front ranks fell back in disorder, leaving the ground covered with dead. Colonel Dillon, seeing his opportunity, immediately charged with his regiment, but not being supported by the remainder of the brigade, he in his turn had to fall back, and while doing so his men came under a murderous fire from two Danish regiments, ambuscaded in a field of maize. Four times the Imperialists returned to the charge, without, however, being able to make any impression upon the Piedmont and Dillon Regiments, who were supported by that of the Royal des Vaisseaux; in the last charge the Prince de Commercy was himself killed.

Darkness coming on put an end to the battle; the two Armies passed the night in entrenching themselves so strongly on their own ground that when morning came neither side ventured to attack the other, and only a harmless cannonade was carried on during the day.

Dillon's losses were severe, eleven officers being killed and seven wounded, among the latter the lieutenant-colonel, Edward Dillon, while a considerable number of the rank and file were placed *hors de combat*. Both sides claimed the victory and sang *Te Deum*, but as the Imperial garrison of Luzzara surrendered two days later under the eyes of Prince Eugene, without his being able to prevent it, the French Army fairly lay claim to having got the best of it.

On the 1st October Count Dillon was promoted to brigadier-general, and the effective command of the regiment passed to Edward Dillon, his lieutenant-colonel.

During the last month of 1702 the Army suffered from a severe epidemic, and when it went into winter quarters at Modéna Dillon's could only muster three hundred officers and men with the colours.

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<sup>1</sup> "From the spot where the Imperial Army lay in ambush the plain sloped gently upward towards the side from which we were advancing. This slope, with the plain itself and the other bank of the Zéro was covered with shrubs and grass, presenting the appearance of an extensive level verdure-covered unbroken stretch of country, and the nearer one approached the more one was confirmed in this impression. It was impossible to have chosen any spot more calculated to deceive the French Army and entice it to destruction." (Notes manuscrites du Marquis de Carrion-Nisas, qui assista à l'action.)

In the spring of 1703<sup>1</sup> the whole Army re-assembled round San-Benedetto. Learning that the Imperial Army was too weak to take the offensive, the Duke de Vendôme, leaving a force to hold them in check along the Secchia, marched with thirty-two battalions and twenty-nine squadrons into the Tyrol in order to assist the Elector of Bavaria at Insprück, who was at that time the ally of France. He divided his small army into two columns, taking command of the first himself, and placing at the head of the second, to which Dillon's had been attached, the Count de Médavi, with the Counts de Vaudrey and Dillon as his brigadiers. This last column, following the western shore of the Lake of Gardia, advanced rapidly by Castiglione, Desenzano, and Gargnano.

On the night of the 31st July, Count Dillon at the head of an advanced guard of grenadiers and pickets, succeeded, through following some steep mountain paths, in turning a post, established on the heights of Val-di-Notta, considered inaccessible and held by four hundred Imperialists, surprised it at break of day, killed one-third and took the survivors prisoners, Dillon's losing one officer killed and two wounded in the affair, which was followed up the following morning by the surrender of the town and castle of Riva. The Count de Médavi, in reporting to the Duke de Vendôme, wrote: "*Que M. Dillon s'y est tout à fait distingué.*" From Riva the two columns, now reunited, marched on Arco, which surrendered on the 17th August after a week's siege. The regiment was then sent back to Riva to secure the line of communication of the small Army, which in the meantime pushed on to Trent.

But the defection of the Duke of Savoy, who up to then had been an ally of the French, compelled Vendôme to stop short in his successful campaign in the Tyrol, and to withdraw his army by forced marches to San Benedetto. On the 23rd October, learning that General Visconti was advancing to the assistance of the faithless Duke with two thousand picked cuirassiers, Vendôme, only taking with him some companies of grenadiers, a few cavalry, and the Regiment of Dillon, departed before dawn on the 24th, made a forced march all that day and the following night, and at daybreak on the 25th surprised the Imperialist cuirassiers in their camp at San Sebastian, close to Cerravalle, and completely defeated them. All the grenadiers of the regiment again returned completely mounted from this expedition, in which they only had one lieutenant slightly wounded.

Vendôme now determined to lay siege to Turin, but the advance in January, 1704, of fourteen thousand Imperialists, under the command of General Stahremberg, who succeeded in effecting a junction with the Duke of Savoy, compelled the Marshal to give up his design, and he proceeded in the spring to lay siege to Verrua instead; in the meantime, the weather being very bad and the troops being thoroughly

<sup>1</sup>By a Royal Decree of 10th April, 1703, the pay of Dillon's was maintained at the same scale, as originally fixed by the Order of 10th April, 1696. The daily pay of the Grenadier Company was: three livres for the captain, thirty-five sols for a lieutenant, twenty sols for a sub-lieutenant, six sols six deniers to each of the two sergeants, four sols six deniers to each of the three corporals, four sols to each of the five lance-corporals, and three sols six deniers to each of the forty grenadiers, including the drummer. The sixteen cadets of the colonel's company only received in the field five sols a day and their rations.

### ERRATA.

- January Journal. Page 87, line 38, should read:—As soon  
as the "Jules Michelet," etc.
- February " Page 196, line 41:—For "1904" read  
"1704."
- " " Page 197, line 11:—For "1905" read  
"1705."



worn out by their continued exertions, he went into winter quarters at Montafia del Bagnasco, where, thanks to the arrival of a large number of recruits from France, Dillon's was soon complete to its full establishment. During the summer the regiment was employed guarding the Piedmontine Montferrat, and on the 1st October it left to join the Army in Lombardy, under the command of the Grand Prior Philippe de Vendôme, a brother of the Marshal. Embarking at Pavia on the Po, it descended that river to Cremona, and on the 26th joined the Army at Medoles, where it found itself under the orders of its old chief, Count Dillon, now promoted to major-general.

In May, 1905, the Army of Lombardy, of which the Marshal de Vendôme had temporarily assumed the command, took the field, the Duke manœuvring so as to shut the Imperialist Army up in its camp at Gavardo, on the Chiese. Left to himself again, the Grand Prior kept the Army inactive in its camp at Moscolino. On the 22nd June, disturbed by the movements of Prince Eugene, he fell back to the almost impregnable camp of Ombriano, at the junction of the Sério and Adda, and shut himself up there. In the meantime, as the result of slack discipline, ill-conceived marches through difficult country under a burning sun, unbridled licence and a general disposition to pillage showed itself in the Army. Alarmed by this new danger, to which the carelessness and incapacity of his brother was exposing the Army of Lombardy, Vendôme returned in all haste and again took over the charge of active operations.<sup>1</sup>

On the 15th July the Army crossed the Sério and moved in the direction of the enemy.

On the 20th July the grenadiers of Dillon took part, during a reconnaissance made by Vendôme in person, in a brilliant attack on three entrenchments, which covered the important Imperial post of the "*Quatorze Navilles*," and which were carried in a quarter of an hour at the point of the bayonet, the enemy leaving in the hands of the French a large number of prisoners, a colour, and their baggage. Prince Eugene appeared desirous of avoiding a battle, and almost a month passed in strategical movements on both sides, often rendered valueless on the French side by the sluggishness and remissness of the Grand Prior.

(To be continued.)

<sup>1</sup>The following clever pun by an Irish grenadier of Dillon's, when hobnobbing with one of his comrades, will show the different estimate of the Marshal Duc de Vendôme and his brother held in the Army:—"Ami, le Caporal Vendôme est arrivé et il nous mènera demain aux ennemis. Je vous avais toujours dit qu'un Louis valait mieux qu'un Philippe," making play on the Christian names of the two Vendômes and the two French coins so-called (Manuscrit du Chevalier Guaydon).

## NAVAL NOTES.

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[Owing to pressure on our space; the French and other Foreign Notes have had to be held over.]

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HOME.—The following are the principal appointments which have been made: Captains—G. W. Smith to "Furious"; A. E. A. Grant to "Forte" on recommissioning; W. O. Boothby to "Endymion"; J. A. Tuke to "Theseus"; C. J. Baker to "Edgar"; C. H. Simpson to "Penguin"; H. H. Torlesse to "Bonaventure"; C. E. Kingsmill to "Majestic"; C. H. Coke to "Cornwallis"; F. T. Hamilton, M.V.O., to "Excellent." Commander—W. H. D'Oyly to "Pegasus."

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The flag of Rear-Admiral Sir W. H. May, K.C.V.O., was hoisted on the 7th inst. on board the new first-class battle-ship "King Edward VII." at Devonport, as new Commander-in-Chief of the Atlantic Fleet.

The flag of Rear-Admiral H. S. H. Prince Louis of Battenberg, G.C.B., G.C.V.O., was hoisted on the 1st inst. on board the first-class armoured cruiser "Drake" at Portsmouth as Rear-Admiral in Command of the 2nd Cruiser Division.

The first-class battle-ship "Bulwark" left Plymouth on the 5th ult. on her return to the Mediterranean as flag-ship, after re-commissioning.

The first-class battle-ship "Albemarle," flying the flag of Rear-Admiral Sir R. Poore, Bart., with her sister-ships the "Cornwallis," "Duncan," and "Montagu," left Gibraltar on the 4th inst. for Arosa Bay to join the Channel Fleet, to which the division is to be attached in the future. On their arrival, the Channel Fleet will have been brought up to its full strength of 12 first-class battle-ships.

The first-class cruiser "Hawke," with the first-class cruisers "St. George" and "Gibraltar," and the second-class cruisers "Highflyer" and "Isis," left Plymouth on the 13th ult. for Dominica, in the West Indies, to join the flag of Vice-Admiral D. H. Bosanquet.

The first-class cruisers "Endymion" and "Theseus" have been commissioned as sea-going tenders to the Gunnery Schools at Sheerness and Devonport respectively. The first-class cruiser "Grafton," recently Commodore's ship in the Pacific, arrived on the 1st ult. at Portsmouth from that station, and has taken up duty as tender to the "Excellent," Gunnery School at Portsmouth.

The second-class cruiser "Indefatigable," from North America and the West Indies, paid off on the 2nd ult. at Portsmouth, and the second-class cruiser "Flora," from the Pacific, paid off on the 16th ult. at Devonport. The second-class cruiser "Forte" is to re-commission at the Cape for another term of service on that station; the second-class cruiser "Hermione" taking out a new crew and bringing the old one home. The third-class cruiser "Fearless" arrived on the 1st ult. at Portsmouth from China.

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*The New Reserve Fleet.*—Under the new Reorganisation Scheme, the fighting fleets of the Navy are now organised as under:—

a. The fleets in commission at sea, including the twenty-eight battle-ships and eighteen armoured cruisers of the Channel, Mediterranean, and Atlantic Fleets, and the three Cruiser Squadrons; the five battle-

ships of the China Squadron, and the various "groups" of protected cruisers.

b. The fleet in commission in reserve, comprising the vessels of the Reserve Divisions established recently, and including the following vessels :—

Battle-ships	-	-	-	-	9
Cruisers	-	-	-	-	20
Torpedo-gunboats	-	-	-	-	2
Torpedo-boat destroyers	-	-	-	-	42
Torpedo-boats	-	-	-	-	43

Six of these battle-ships and six of the first-class cruisers are held in readiness to proceed to sea at once on an emergency, and the others would follow at short notice; in fact as soon as their crews had been completed to war strength.

In addition to the above, a number of less valuable vessels, mostly obsolescent, remain at the naval ports, but not in commission. They could be prepared for sea at comparatively short notice in the event of their assistance being needed.

The new Reserve Divisions were commissioned on the 3rd ult., on which day also the different Rear-Admirals, appointed to command them, hoisted their flags :—

*Devonport Reserve Squadron.*

(Commanded by Rear-Admiral C. G. Robinson).

Battle-ships—"Barfleur" (flag-ship), "Hood," "King Edward VII."

Cruisers—"Blake," "Niobe," "Arrogant."

Torpedo-gunboat—"Harrier."

Torpedo-boat destroyers—"Arab," "Avon," "Bittern," "Blackwater," "Daring," "Express," "Ferret," "Gipsy," "Leopard," "Lynx," "Ostrich," "Violet."

Torpedo-boats—Nos. 80, 81, 82, 85, 86, 87, 98, 99, 104, 105, 106, 107, 108, 111, 112, 113.

*Portsmouth Reserve Division.*

(Commanded by Rear-Admiral R. L. Groome).

Battle-ships—"Canopus" (flag-ship), "Prince George."

Cruisers—"Europa," "King Alfred," "Powerful," "Spartiate," "Terrible," "Eclipse," "Indefatigable," "Latona," "Pandora."

Torpedo-boat destroyers—"Bullfinch," "Contest," "Kestrel," "Lightning," "Recruit," "Rocket," "Star," "Surly," "Tiger," "Vulture," "Zebra," "Zephyr."

Torpedo-boats—Nos. 25, 27, 33, 34, 41, 42, 45, 52, 53, 54, 55, 57, 58, 78, 79, 110, 114, 115, 116, 117.

*Sheerness-Chatham Reserve Division.*

(Commanded by Rear-Admiral W. H. G. B. Graham).

Battle-ships—"Resolution" (flag-ship), "Goliath," "Ramillies," "Repulse."

Cruisers—"Argonaut," "Diadem," "Scylla," "Pegasus," "Pioneer," "Pyramus."

Torpedo-gunboat—"Speedy."

Torpedo-boat destroyers—"Charger," "Dasher," "Greyhound," "Hardy," "Haughty," "Havock," "Hornet," "Hunter," "Opossum," "Racehorse," "Ranger," "Roebuck," "Salmon," "Snapper," "Spitfire," "Starfish," "Sturgeon," "Swordfish,"

Torpedo-boats—Nos. 65, 66, 67, 68, 72, 73, 74.

*The Mediterranean Fleet: Redistribution of Destroyers.*—The destroyers in the Mediterranean have been redistributed this month as shown below, four divisions working from Malta and one division from Gibraltar, as their respective headquarters. The object of the scheme is to have boats of similar build, as far as possible, in the same division, so that the spare parts of the machinery and boilers will be interchangeable, thus reducing the number of parts a parent ship would have to carry for one division:—

Distribution.	1st Division. River Class. 25½ knots.	2nd Division. Palmer's. 30 knots.	3rd Division. Thornycroft's. 30 knots.	4th Division. Laird's. 30 knots.	5th Division. Mixed Class. 27 and 30 knots.
Working flotilla of five vessels in commis- sion.	Exe. Erme. Etrick. Itchen. Dee.	Kangaroo. Myrmidon. Fawn. Bat. Peterel.	Albatross. Desperate. Stag. Coquette. Foam.	Sprightly. Locust. Orwell. Griffon. Seal.	Mallard (30) Banshee (27) Quail (30) Earnest (30) Bruiser (27)
Reserve of three vessels.	Arun (M) Cherwell (M) Foyle (M)	Crane (M) Star (G) Flying Fish (M)	Cygnets (M) Angler (M) Cynthia (G)	Express (G) Lively (M) Panther (M)	Thrasher (G 30) Dragon (G) 27 Ardent (G) 27
Additional 10 per cent. Re- serve.	Blackwater (M)	Flirt (M)	Ariel (M)	Wolf (M)	Boxer (G) 27

(M) Malta Reserve.

(G) Gibraltar Reserve.

The 5th Division will be stationed at Gibraltar.

*Naval Progress in 1904.*—Twenty-five ships in all were launched for the Navy during 1904; their names and description are given in the General List of war-ships launched during 1904.

The following ships were completed and commissioned during 1904:—

*First-class battle-ships*—"Cornwallis," 14,000 tons, 15,000-I.H.P., 19 knots speed; "Queen" and "Prince of Wales," both of 15,000 tons, 15,000-I.H.P., and 18 knots speed; "Triumph" and "Swiftsure," both of 11,800 tons, 12,500-I.H.P., and 19 knots speed.

*First-class armoured cruisers*—"Euryalus," of 12,000 tons, 21,000-I.H.P., and 21 knots speed; "Essex," "Lancaster," "Suffolk," "Cornwall," "Cumberland," all of 9,800 tons, 22,000-I.H.P., and 23 knots speed.

*Third-class cruiser*—"Topaze," of 3,000 tons, 9,800-I.H.P., and 21½ knots speed.

And eighteen torpedo-boat destroyers.

The following ships are approaching completion, being built, or are to be laid down before the close of the financial year:—

*First-class battle-ships*—"King Edward VII." (practically completed); "Commonwealth," "Dominion" (will probably be completed about Easter); "Hindustan," "New Zealand," "Britannia" (completing); "Hibernia," "Africa" (building), all of 16,350 tons, 18,000-I.H.P., and 18½ knots speed; "Lord Nelson," "Agamemnon" (building), of 16,500 tons, 20,000-I.H.P., and 18 knots speed.

*First-class armoured cruisers*—"Duke of Edinburgh," "Black Prince" (completing); "Achilles," "Cochrane," "Natal," "Warrior" (building), of 13,500 tons, 23,500-I.H.P., and 22·5 knots speed; "Shannon," "Orion," "Minotaur," "Defence" (building), of 14,600 tons, 27,000-I.H.P., and 23 knots speed.

*Scouts*—"Attentive," "Skirmisher," of 2,900 tons, 16,500-I.H.P., and 25 knots speed.

And seventeen destroyers.

Five first-class battle-ships, one first-class armoured cruiser, four protected cruisers, nine destroyers, and four torpedo-boats completed their trials:—

*Battle-ships.*

Vessels.	Full Speed.		Coal Consumption.
	Trial I.H.P.	Trial Speed.	
		Knots.	lbs.
King Edward VII. ... ..	18,138	19·04	2·17
Commonwealth ... ..	18,562	19·37	1·83
Dominion ... ..	18,438	19·35	1·77
Hindustan ... ..	18,521	19·8	1·8
Swiftsure ... ..	14,031	19·93	—

*Armoured Cruiser.*

Cornwall ... ..	22,709	23·8	1·94
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*Protected Cruisers.*

Amethyst ... ..	14,200*	23·63	1·72
Topaze ... ..	9,860	22·1	2·65
Diamond ... ..	10,066	22·17	2·98
Sapphire ... ..	10,200	22·45	2·52

*Torpedo Vessels.*

Cherwell ... ..	7,250	25·603	2·34
Dee ... ..	7,306	25·504	2·28
Waveney ... ..	7,307	25·626	2·19
Welland ... ..	7,777	26·24	1·65
Kennet ... ..	7,445	25·665	2·39
Jed ... ..	7,990	25·787	2·46
Derwent ... ..	7,241	25·68	2·24
Ribble ... ..	7,417	25·817	1·57
Eden ... ..	—	26·229	—
Torpedo-boat 114 ... ..	3,034	25·154	2·15
" 115 ... ..	3,047	25·187	1·97
" 116 ... ..	3,001	25·22	1·95
" 117 ... ..	3,016	25·115	2·0

\* Estimated horse-power only. The "Amethyst" is fitted with turbine machinery.

GENERAL.

The war-ships, exclusive of torpedo-boats, launched during the year 1904, with their tonnage, I.H.P., and estimated speed, were as follows:—

*Great Britain.*—First-class battle-ships:—"Britannia," "New Zealand," of 16,350 tons, 18,000-I.H.P., and 18·5 knots speed. First-class armoured cruisers:—"Devonshire," "Argyll," "Roxburgh," of

10,850 tons, 21,000-I.H.P., and 23 knots speed; "Duke of Edinburgh," "Black Prince," of 13,500 tons, 23,500-I.H.P., and 22 knots speed. Third-class cruisers:—"Diamond," "Sapphire," of 3,000 tons, 9,800-I.H.P., and 21·7 knots speed. Scouts:—"Pathfinder," "Patrol," "Forward," "Foresight," "Sentinel," "Adventure," of from 2,940 tons to 3,000 tons, 17,00-I.H.P., and 25 knots speed. Torpedo-boat destroyers:—"Ure," "Wear," "Rother," "Boyne," "Doon," "Kale," "Ribble," "Welland," "Liffey," "Moy," "Jed," "Chelmer," "Ness." Submarines:—Three.

*Austria-Hungary.*—Second-class battle-ship:—"Erzherzog Friedrich," of 10,600 tons, 14,000-I.H.P., and 19 knots speed. River Monitors:—"Bodrog," "Temes," of 440 tons, 1,400-I.H.P., and 13 knots speed.

*France.*—First-class battle-ships:—"Démocratie," "Justice," of 14,865 tons, 17,500-I.H.P., and 18 knots speed. First-class armoured cruiser:—"Victor Hugo," of 12,550 tons, 27,500-I.H.P., and 22 knots speed. Torpedo-boat destroyers:—"Sabre," "Francisque," of 303 tons, 6,300-I.H.P., and 28 knots speed. Submarines:—"Aigrette," "Cicogne," "Omega," "X 3," "Y," "Z."

*Germany.*—First-class battle-ships:—"Deutschland," "Lothringen," of 13,200 tons, 16,000-I.H.P., and 18 knots speed. First-class armoured cruiser:—"York," of 9,500 tons, 19,000-I.H.P., and 21 knots speed. Third-class cruisers:—"Lübeck," "München," of 3,250 tons, 11,000-I.H.P., and 23 knots speed. Torpedo-boat destroyers:—"Six, Nos.," "S 120," "S 125," of 420 tons, 6,500-I.H.P., and 30 knots speed.

*Italy.*—First-class battle-ships:—"Vittorio Emanuele III.," "Regina Elena," of 12,625 tons, 19,000-I.H.P., and 20 knots speed. (These ships were incorrectly entered in last year's list as having been launched in 1903.) Torpedo-boat destroyers:—"Espero," "Zeffino," of 330 tons, 6,000-I.H.P., and 30 knots speed.

*The Netherlands.*—Coast-defence battle-ship:—"Marten Tromp," of 5,295 tons, 6,000-I.H.P., and 16 knots speed.

*Norway.*—Torpedo-boat destroyers:—"Ore," "Ravn," of 380 tons, 3,300-I.H.P., and 23 knots speed.

*Russia.*—First-class gun-boat:—"Chivinec," of 1,316 tons, 1,400-I.H.P., and 14 knots. Torpedo-boat destroyers:—"Zwonki," "Zorki," "Zadornyi," "Zarki," "Gromki," "Gremyachi," "Grozni," of 350 tons, 5,700-I.H.P., and 26 knots speed. Torpedo-depôt ship:—"Volga," of 1,453 tons, 1,600-I.H.P., and 13 knots speed.

*Turkey.*—Torpedo-boat destroyers:—"Akhissar," "Alpaget," of 350 tons, 6,000-I.H.P., and 26 knots speed.

*United States.*—First-class battle-ships:—"Connecticut," "Louisiana," of 16,300 tons, 16,500-I.H.P., and 18 knots speed; "New Jersey," "Rhode Island," "Georgia," "Nebraska," "Virginia," of 15,700 tons, 19,000-I.H.P., and 19 knots speed. First-class armoured cruisers:—"Tennessee," of 14,500 tons, 23,000-I.H.P., and 22 knots speed; "South Dakota," "California," of 13,900 tons, 23,000-I.H.P., and 22 knots speed; "Milwaukee," "Charleston," of 9,700 tons, 21,000-I.H.P., and 22 knots speed. First-class gun-boats:—"Paducat," "Dubuque," of 1,085 tons, 1,000-I.H.P., and 13 knots speed. Submarines:—"Simon Lake X."

RUSSIA.—*Injuries to the "Tsarevitch."*—The following description of the injuries, with the accompanying plans, sustained by the Russian battle-ship "Tsarevitch" in the action of the 10th August last, which has been lying ever since in the German harbour of Tsingtau, is taken from the *Marine Rundschau*. According to the reports of the Russian officers, the ship was struck by fifteen 12-inch and a greater number of shells of small calibre :—

Shot No. 1 :—A 12-inch shell forward on the starboard side at the level of the upper deck, striking the hog's-back of the bow anchor. The projectile tore a hole in the ship's side 2 x 2 metres, passed through the bow and sheet anchor chains, but hardly left a trace of its passage in the hold. Both anchors were lost.

Shot No. 2 :—A 12-inch shell on the starboard side, level with the upper deck, and just under the forward 12-inch turret. The shell tore a hole in the ship's side 1 x 1 metre, but did practically no damage in the interior.

Shot No. 3 :—A 12-inch shell that struck the armour of the forward 12-inch turret. Ineffective.

Shot No. 4 :—A 12-inch shell squarely striking the starboard side of the forward conning-tower. Of the persons in the conning-tower, the ship's navigator, a sub-lieutenant, the helmsman, and two or three orderlies were killed, their heads being blown off, while two officers were stunned. Through the falling bodies, the wheel was turned hard to port, the steering gear being uninjured; the compass was destroyed. The cables running along under the roof of the conning-tower were torn away, and the mechanical connection with the engines destroyed. The head of the shell passed out of the tower and buried itself in the hammock boxes that form the forward bridge rail, and here it was later found.

Shot No. 5 :—A 12-inch shell that squarely struck the foot of the foremast between the upper and lower bridges. The projectile pierced the starboard side of the mast and burst against the port side. Toward the bow the iron plates of the mast were entirely torn away. At the back only does a connection between the two bridges remain, but this is not strong enough to bear the weight of the heavy fighting mast. The latter actually rests on the upper bridge only, being joined to this by strong angle irons that were uninjured. The search-light cables in the mast were broken. The shot killed Admiral Witthöft, the fleet navigator, and some fifteen men. The Chief of Staff, Admiral Matusewitch, and the Commander, Captain Ivanoff, were wounded. The officers were probably in the fire lee of the tower.

Shot No. 6 :—A 12-inch shell struck the lower part of the forward funnel squarely. The shell penetrated the starboard side and exploded against the port side, which was torn to pieces.

Shots Nos. 7 and 8 :—Two 12-inch shells injured the upper and lower parts of the rear funnel. They struck and burst against the starboard side of the smoke-stack, which was ripped up and torn from top to bottom. The port side shows no injury that can be traced to either of these shots.

Shot No. 9 :—Probably an 8-inch projectile fired from a cruiser. The shell penetrated the port side wall of the superstructure below the launch. Several injuries resulted, among them the destruction of the bakery. The shell made a round hole about 1 metre in diameter.

Shot No. 10 :—Another 8-inch shell, that penetrated the port side of the forward lower edge of the rear 6-inch turret, leaving a hole 1 x 0.55

metre in the wall. The covering of the lower turret structure in the admiral's mess was torn away.

Shot No. 11.—A 12-inch shell struck the top of the after 12-inch turret near the sighting-board and burst. The top was slightly dented, and some of the rivets of the angles joining the turret and the hood were driven in, killing a man inside of the turret. The man in the sighting-hood was rendered unconscious for a short time only. Pieces from the bursting shell penetrated the after chart room.

Shot No. 12.—A 12-inch shell burst and destroyed the forward chart room abaft the foremast.

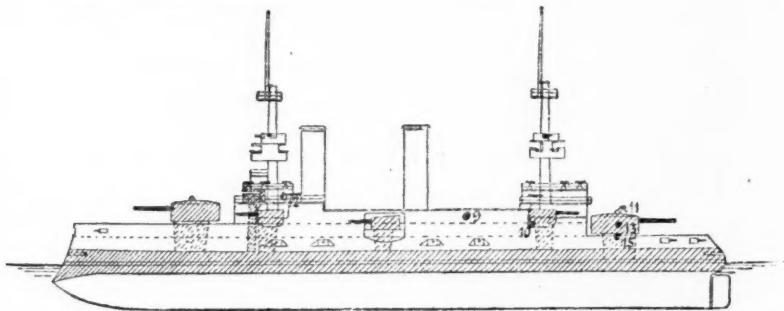


FIG. 1.—DIAGRAM SHOWING HITS ON PORT SIDE OF "TSAREVITCH."

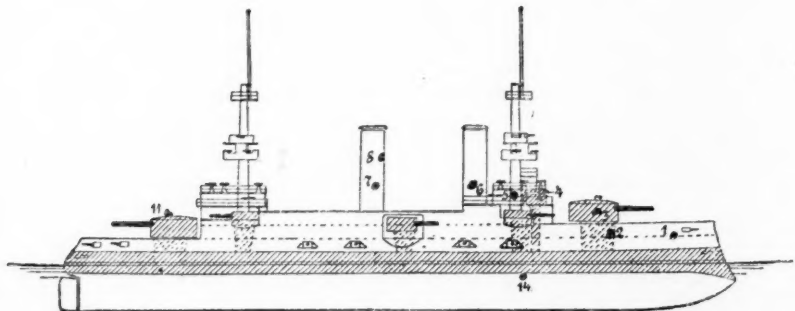


FIG. 2.—DIAGRAM SHOWING HITS ON STARBOARD SIDE OF "TSAREVITCH."

Shot No. 13.—A 12-inch shell struck the after 12-inch turret on the port side. The shell probably burst at impact and did no damage.

Shot No. 14.—Probably a 12-inch shell that struck some 2½ metres below the water-line, under the forward 6-inch turret and under the armour belt. (See Fig. 3.) According to the reports of divers, the projectile struck the joint of two of the outer skin plates. The plates, frames, and supports are said to be dented and bent, but not torn, for a longitudinal distance of about 3½ metres. The covering-strap is supposed to have jarred off, and about 150 tons of water allowed to enter the compartment behind the downward curved armour deck, through the rivet holes. The "Tsarevitch" entered the harbour with a barely perceptible list to starboard.

Shot No. 15:—A 12-inch shell passed through the port after-deck railing and the upper-deck and burst. The bollard was half torn away. The teakwood covering of the upper-deck is ripped up for about 4 square metres. The wood did not burn, and the deck planking splintered little.

The following facts may be noted in respect to these injuries:—

1. As but part of the Japanese shells pierced the sidewall or did barely perceptible damage in the interior of the vessel, we may conclude that they burst too soon. However, in this respect the shots that struck the foremast and the funnel differ very widely from most of those that struck the hull. Much may be considered due to the difference in the effect of the description of shells used. It will probably not be far from the truth to finally conclude that the Japanese used some "half-armour shells with base fuses."

2. In spite of the wooden deck and of the fact that all boats were on board, the splintering effect was small.

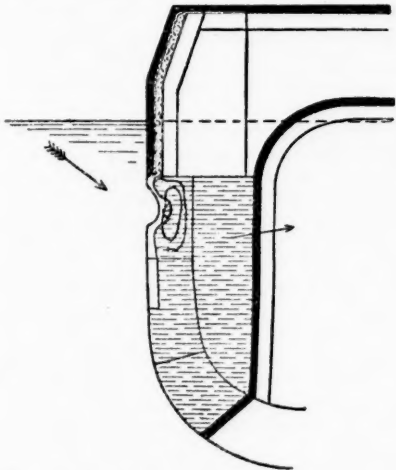


FIG. 3.—THE HIT BELOW THE ARMOUR BELT.

3. The wooden decks did not catch fire as was the case in the Chino-Japanese war.

4. In no place was the armour pierced; all the vital parts lying underneath the upper armoured deck were absolutely uninjured. Some pieces of the burst shell fell through the after funnel upon the boilers under it, and damaged a few superheater pipes. The explanation of the ineffectiveness of the heaviest Japanese shells against the Russian armour may be found in the tremendously long range and the apparent non-use of armour-piercing projectiles.

5. The hit below the starboard water-line under the forward 6-inch turret did not perforate the outer skin. The entrance of the water was due to the loosening of the rivets incident to the denting of the outer plates.

6. Both the fore and aft 12-inch turrets were struck without injury to the revolving mechanism of the turret or the ammunition-serving

apparatus of the guns. However, according to the statement of a German officer who visited the "Tsarevitch," the forward turret shows a large groove on the starboard side.

There is no reliable information at hand concerning the quantity of ammunition used by the Russians. According to one of the officers, the lack of 12-inch shells—it appears 74 to 76 were fired from the forward turret and 40 to 45 from the rear turret—was one of the reasons for putting into Tsingtau.—*Marine Rundschau*.

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UNITED STATES. — *Supremacy of the Battle-ship*. — That the impression which has gained credence in some quarters to the effect that the efficiency of the battle-ship has been discounted by the operations in the Far Eastern war may be corrected, the Navy Department has issued the following official statement commenting upon the naval operations of the Russian and Japanese fleets, and calling attention to the fact that absolute supremacy of the battle-ship has throughout the war been again and again demonstrated. The statement was prepared by a member of the General Board, who is well known as a tactical and strategical expert, and represents the views of the Board and of the Secretary of the Navy. It follows:—

"The present war in the Far East has, in its many-sidedness, given pause to many whose vocation and tastes lead them to ponder questions of military policy and strategy. The conduct of the Japanese armies has won world-wide admiration, equalled only, perhaps, by that aroused by the heroic resistance of the Russian garrison at Port Arthur.

"A still greater surprise, perhaps, has been caused by the superb condition and efficiency of the Japanese fleet, ascendancy upon the seas being supposedly a less natural development of their old-time war spirit than a fighting supremacy on shore. Every type of war-vessel has its place in the Navy of that country, and it is not too much to say that each has been used in the manner and for the purpose to which it is best adapted and for which it was intended; and perhaps no more useful book is opened to the modern tactician than a thorough and logical study of the employment of the different weapons. In such a study, sound conclusions may differ surprisingly from hasty conceptions.

"To neutralise something powerful and costly by means of an inferior and cheap agent has always been an attractive theme; but seldom, if ever, have the ends attained justified the brilliant expectations of those who have allowed their imaginations to run riot. In 1805, William Pitt, upon examining the plans of Fulton's torpedo-boat, remarked that if that mode of fighting were adopted it would be the end of military Navies; and yet a hundred years have passed and the battle-ship still stands supreme. During these generations the French, despairing of opposing equal force to the British fleets, had adopted the policy of employing swift cruisers for commerce destroying, and they actually did capture a great many merchant-ships of their hereditary enemy; but the injury was confined to the feelings of the many and the pockets of the few. Supremacy on the sea and mastery of the situation remained with the nation whose naval line-of-battle stood unbroken. In the early days of the modern development of the torpedo-boat, the fascinating idea again came to the front of using those vicious little craft to annihilate fleets. The imaginary contest was likened to that of the microbe attacking the elephant; but the revulsion has not come. Ex-

perience gradually caused it to be seen that the laws of nature remain the same, and that a small and frail cockle-shell cannot maintain either speed or even existence at sea in the same manner as a heavy ship. The results of the present war in the East appear to demonstrate that not only is the availability of a torpedo-boat at the front dependent upon having a supporting ship and convenient base and refuge, but that prospect of success is greatly enhanced by the presence of a containing force to restrain the enemy and keep him in a situation favourable to the attack. It has been suggested that even the dormant mine has in this war been so successful as to almost enter the category of *offensive* weapons, and thus still further discountenance the battle-ship. In its important, though somewhat accidental, results, the mine may be likened to a small chemical pellet which will surely prostrate the strongest man in his carelessness, but which can surely not do a man's work in the world.

"Ships must not touch mines, and must protect themselves against the torpedo; but their power in bringing war to a successful issue never has been stayed except by a greater force of a similar nature. And an examination of the results of the various modes of attack brings out the additional evidence of this war as indicating the probable immutability of that governing principle.

"In the brusque inauguration of hostilities by the Japanese torpedo-boat flotilla at Port Arthur during the night of 9th February, 1904, they did undoubtedly deliver a telling blow by disabling three Russian battle-ships. The temporary crippling of that force affected the conduct of operations, not only during the beginning, but throughout the entire first phase of the war; the Japanese, having by that stroke won the mastery of the sea, were able to land troops at the Yalu, and later at Niu-chwang, instead of at the far south end of the Korean Peninsula. This mastery was due to their having the preponderating force of battle-ships, which alone enabled them to blockade the Russian fleet. No more eloquent tribute to the pre-eminent value of battle-ships is to be found than this one circumstance, that the small margin of superiority thus obtained saved the Army hundreds of miles of precarious and weary land transport of men and supplies, enabling them to strike swiftly, hard, and continuously upon a weaker enemy before he could be reinforced.

"On the other, if, under normal conditions, battle-ships can be destroyed or seriously damaged by unsupported torpedo-boats, their value is seriously compromised. This, however, does not appear to be the case. The action of 9th February was a surprise far excelling the usual elements of a surprise attack. The Russian fleet, fourteen vessels in all, were anchored close together in the outer funnel-shaped roadstead, without suspicion of impending hostilities, not a patrol-boat being out, and the crews peacefully sleeping in their usual berths. Three Japanese destroyer flotillas (twelve vessels) approached with lights burning, and, being mistaken (as intended) for Russian boats returning, were allowed to approach close to the huddled fleet; then, with a smooth sea, at close range, hardly disturbed by a single shot in return or flash of search-light, with all the conditions of easy target practice, not less than twenty-four torpedoes (and probably more) were discharged, of which three took effect. The results were undoubtedly momentous; but it would be a hardly logician who could deduce from that incident the comforting thought that the little torpedo craft has displaced the battle-ship or even materially diminished its prestige. As is well known to all who

have followed in the press the procession of events, Admiral Togo's fleet left Japan at the time the message was sent recalling the Minister at St. Petersburg, established a naval base in the islands neighbouring to Port Arthur, and thenceforth with his battle-ships and large cruisers invested that port and supported his small craft in their constant attacks. Protected from torpedo attack by his own torpedo flotillas, he blockaded the Russian fleet and immobilised their battle-ships. Although the Russian destroyers in Port Arthur numbered twenty-four, or eight more than all in the U.S. Navy, not one has scored a hit so far during the war.

— "Scores of other torpedo attacks have been delivered by the Japanese, but nearly all met with complete lack of success, although made as usual under the cover of darkness and against an enemy at anchor, and whose position was known. Upon one occasion, after a soul-stirring night—that of 23rd June—the Russian ships being in the outer roadstead, twelve torpedoes were picked up in the morning, having missed their marks, and having their mechanism apparently set to float at the end of the run (instead of to sink as is customary), in the evident hope that they might find a target while drifting about. How many others were sped during that strenuous night, and sank or drifted away in the tide, will probably never be known. In a few other cases, hits were scored which laid the victims up for a few days, after which they returned to service; but the fact remains that not a Russian has been sunk by a torpedo until just recently, when the "Sevastopol" succumbed to the incessant attacks, she being "contained" by the Japanese battle fleet and compelled to lie helplessly anchored outside of the harbour, entirely exposed, and with many of her guns landed to aid in the shore defences. The circumstances were indeed peculiar. The fleet in Port Arthur had been destroyed by gun-fire, the Japanese having occupied a hill which allowed them to deliver a direct fire on it with siege and naval guns. The "Sevastopol" was moved to the outer roadstead, and, hemmed in by Togo's battle-ships, anchored under the Tiger's Tail forts, protecting herself by a boom defence and nets of other vessels lost. This defence withstood continuous night attacks by Japanese destroyers and torpedo-boats for ten days, when she was finally struck by three torpedoes, and is now beached on the rocks under Golden Hill Forts. She was a stationary target day and night for two weeks, and it is not known how many attacks were delivered against her, but a probably low estimate of the number of torpedoes fired would be 150. The Japanese suffered severely in the attacks, and lost two destroyers and some of the smaller torpedo-boats. The weather, while severe upon the boats' crews, was evidently favourable for torpedo work, as the reports refer to snow, rain, sleet, and the elements generally being bad.

"Day attacks by torpedo-boats have never been regarded as worth attempting. Several incidents of this war have been illustrative of their impotence in daylight. The first was when the "Variag" came out of Chemulpo to face the Japanese Squadron; not a single torpedo-boat was permitted to enter the field of action. Again, during and following the fleet action of 10th August; although there were present eight Russian destroyers and at least fifteen Japanese destroyers and many torpedo-boats, not a torpedo reached its mark—if indeed any were discharged; none dared to approach within torpedo range by daylight. The same is true of the action of 14th August between the Vladivostok armoured cruisers and Admiral Kamimura's fleet; the ill-fated "Rurik" was crushed by gun-fire alone, and the torpedo-boats effected nothing against the "Rossia" and "Gromoboi," which escaped to Vladivostok,

although badly damaged by gun-fire. So far as actions on the open sea are concerned, it may be said that in none have the results been influenced in any way by the presence of the torpedo-boat or the torpedo-boat destroyer.

"Somewhat to the chagrin of students of the game of naval warfare, this war has afforded no field for the discussion of cruisers. The armoured cruisers of the two fleets have simply been mutually pitted one against the other. "Protected" cruisers, whose sole sphere in military operations has of late years been admitted to be restricted to extended sea scouting, have been barred from that service by the localised character of the operations, the smaller craft with their wireless telegraph systems being on constant sentry duty off Port Arthur, and notifying Admiral Togo of any threatened sortie. Vessels of all types were present in both fleet actions, but the attention of both sides appears to have been devoted exclusively to crippling each other's battle-ships. Nor have there been any individual actions between unarmoured ships, other than the destruction of the gallant little "Novik" by the "Chitose" and "Tsushima." The "Variag," upon issuing from Chemulpo, was of course immediately crushed by the overwhelming force confronting her. The other Russian cruisers were of occasional assistance in driving off the enemy's torpedo-boats or rescuing their own; but rarely has the name of any such vessel caused occasion for mention in either official or press reports.

"The overshadowing importance of the battle-ship is nowhere more appreciated than in Japan. Had they had at the outset twelve, or even ten, battle-ships instead of six, the Russian fleet would have been destroyed on 10th August. The supreme incentive to holding out at Port Arthur being thus removed, that fortress would probably have fallen, the war correspondingly advanced, and thousand of lives and millions of treasure saved. Threatened now by the Russian second Pacific Fleet, it is safe to say that they would gladly recover at several times their cost the "Hatsuse" and the "Yashima" (if so be it that the uncontradicted reports of the latter's loss be true); for well do they know that the loss of the command of the sea would mean the end of the campaign in Manchuria. Likewise gladly would the Russians buy back the "Petro-pavlovsk," sunk in the same manner as the two Japanese—by mines skilfully planted by the enemy.

"In summing up the lessons of the war, one cannot do so more accurately or felicitously than was done by Lord Selborne, First Lord of the British Admiralty, in the following words:—

"The lessons from the war in the Far East are the importance of the *personnel*, the necessity for having a margin of strength, and the fact that without battle-ships no Power can hold or win command of the sea."

## MILITARY NOTES.

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### PRINCIPAL APPOINTMENTS AND PROMOTIONS FOR JANUARY, 1905.

Colonels—Lieut.-Colonel and Brevet Colonel E. R. C. Graham, C.B., from h.p. to be an A.A.G. at Headquarters, and is granted the substantive rank of Colonel in the Army.

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AUSTRIA-HUNGARY.—*Two Years' Period of Service and Artillery Increase.*—For the second time the introduction of the two years' period of service in Austria-Hungary is about to be officially announced to the members of Parliament. For the second time, also, the latter have been warned that such a modification of military service will be attended with an increased budgetary expenditure. The new law on recruiting, which is the subject of dispute between the two Governments of the Dual Monarchy rests on the following principles:—

The two years' period of service in the Regular Army will not be applied to the Navy, the cavalry, or the horse artillery, for essentially military reasons. In the second place, annual recruit contingents will be higher than at present. "As a matter of fact," said Count Tisza, "it will be necessary to fill the same units with two classes instead of with three. On the other hand, a change of organisation cannot be contemplated without an increase of the effective." The organisation of the Austro-Hungarian Army will not be altered, in its entirety, by a reduction of the period of service. The Government does not contemplate the creation of new units, either in the infantry or in the cavalry. In these two branches of the Service, however, the peace effectives of both the company and the squadron are far inferior to the numbers reached by the various Great Powers. But the infantry division is the tactical unit in modern Armies. In order to place it at the height of efficiency, and to hasten its mobilisation, it is indispensable that the division should be reorganised, so that it might, in peace time, be in permanent touch with its artillery. This is impossible in the present condition of that arm whose numerical weakness, on the contrary, renders it unfit to carry out the duty for which it is meant. The Government has, therefore, decided to provide the Hungarian Honved, as well as the Austrian Landwehr, with their divisional artillery, which they do not now possess, in the new organisation.

Count Tisza has given no details of the measures projected to carry out this decision. The Parliamentary crisis now raging in Hungary arises, as a matter of fact, from the first demand for an increase in the contingent presented in 1902, the object of which was the creation of a heavy field artillery. Since then, howitzer batteries have been formed, and await, before being taken into use, the corresponding increase of the effectives. For the same cause the reorganisation of the mountain artillery has been held over since 1902. Nothing was more calculated to decide the Hungarian Parliament to give way with regard to an excess of the contingent than the increase of the Honved, the special militia of the kingdom, the

National Army as opposed to the troops of the common Army. The allotting of artillery to the Honved represents one of the greatest reparations which could possibly be offered to Magyar sentiment. The announcement of this innovation has aroused a regular explosion of enthusiasm in the Hungarian Parliament, not only amongst members of the Opposition, but also amongst the Ministerial majority. It is therefore a matter for astonishment that the Government, after making known the principle of the reorganisation, do not hasten to publish the details. In order to be able to judge to what extent the charge of insufficiency, officially made against the artillery, is justified, it is of interest to briefly recall its organisation, and in accordance with what regulations it is distributed amongst the large units.

The artillery consists, then, of 14 brigades, or one to each of the first fourteen army corps. The XVth Army Corps in Bosnia-Herzegovina, and the Zara military command are provided with a special artillery, viz., mountain and fortress. Each brigade consists, uniformly, of 1 corps regiment and 3 divisional regiments. The divisional artillery amounts to a total of 42 regiments, which are attached to 29 divisions of the common Army<sup>1</sup> and by detachments to 8 Landwehr, and 7 Honved Divisions, or a deficit of 2 divisional artillery. It cannot be foreseen what the War Department will do with the 13 regiments at present in excess of the divisions of the common Army; but it appears difficult to admit that these corps, at present strongly constituted,<sup>2</sup> should be employed for the formation of troops at a reduced effective, or Regular troop-cadres, such as the Honved units are in peace time. It is, therefore, probable that the Honved, and similarly the Landwehr, will receive special artillery troops, without any deductions from the common Army. To the question of the distribution of artillery units must be added that of their interior organisation. The approaching adoption of a Q.F. field gun has been already decided upon in principle, on the reduction in numbers from 8 to 6 of the guns of a battery on a war footing. The ammunition wagons, calculated at one per gun, will in future be at the rate of 1½ per gun, thus giving 9 ammunition wagons to each battery. At the same time the 4 divisional batteries will be increased by 2 units. The number of guns per army corps, mobilised at 3 divisions, which is now 128, will be increased to 144. These numbers do not include the heavy field artillery divisions, contemplated at the rate of one per army corps. This reorganisation, provided for the time when the armament with the new field gun will be completed, viz., in 1907 or 1908, might, therefore, coincide with the introduction of the two years' period of service.—*Revue Militaire des Armées Étrangères*.

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FRANCE — *Last Year's Manœuvres*. — Last year's French Army Manœuvres, in the south-east under the direction of General Brugère, and in the north-west under that of General Hagron, which were concluded on 15th September last, are of far greater interest than former ones, not on account of the number of troops taking part in them—60,000 men in the south-east, and 35,000 in the north-west—for larger numbers have already been frequently assembled in the same tracts of country. The importance of last year's Grand Autumn Manœuvres

<sup>1</sup> The IInd Army Corps at Vienna consists of 3 infantry divisions.

<sup>2</sup> The field battery in peace time consists of 4 horsed guns and 2 unhorsed ammunition wagons.

lies far more in the fact that, thanks to the special instructions and to the methods of the two directors, principles were established which, if not altogether new, had not, at any rate, up to the present time, been thoroughly applied in France. Contrary to the practice of former years, which endeavoured to make the Army manoeuvres into brilliant military theatricals, with a concluding sensational tableau, we find in both manoeuvre areas no striving after "pictures," no precipitate and consequently superficially carried out actions, no haste in large strategic movements, with the following tactical blows condensed into one day and for which in reality several days were necessary. Both directors devoted several days to the carrying out of a battle; in the south-east a continuous action was waged, in which the director introduced changes by the transfer of forces from one side to the other. The great stress that General Brugère laid, both in his special instructions and in his criticisms, on the necessity for a prolonged support of infantry by artillery and on the participation of cavalry in the battle, was undoubtedly occasionally carried to extremes, which must be attributed to the exuberance of too great zeal. Now and again batteries appeared in the firing line, and would frequently advance with it during attacks, a course of action which would in reality have been of no use, and would have entailed severe losses. It should not, however, be overlooked that last year, to a greater extent than formerly, the battle preparation of troops in combination with other branches of the Service was carried out before the manoeuvres; mixed forces, consisting of infantry brigades with one to two squadrons, two to three batteries and upwards, were assembled in great numbers on the manoeuvring grounds. Both directors of the manoeuvres, through their methods, allowed the infantry ample time to become acquainted with and to make use of the country and its cover, to attain fire discipline, and to train the Reserves for war. The artillery were given time to reconnoitre their positions, and to give adequate orders for their ammunition supply and distribution of objectives, to attain fire superiority, and to prepare the way for the infantry attack. In the north-west reflectors were used in order to demonstrate the direction and range of the artillery fire, and also to let the other arms know when they came under hostile artillery fire and when special precautions should be taken. Both directors, and especially General Brugère, kept troops at their disposal, which they later, frequently during an action, transferred to one side or the other in order to introduce "the unexpected" into the battle, so that the commanders had to suddenly make up their minds to a course of action. The commissariat supply, according to the latest regulations for service on the lines of communications, worked most satisfactorily in both manoeuvre areas; according to all reports there was no friction or obstruction anywhere.

The army corps came on to both the manoeuvre areas in very different formations. In the south-east the VIIth and VIIIth Army Corps, to which the 7th and 8th Cavalry Divisions were added, appeared each with 3 divisions, a cavalry brigade, corps artillery, and a corps engineer company—in short, the normal formation. In the north-west, General Hagron, with the permission of the War Minister, attempted, experimentally, an entirely new formation with the IIIrd and IVth Army Corps. He formed his army corps into a general commando for mixed brigades of 2 infantry regiments of from 3 to 4 battalions, a squadron, 3 to 6 batteries, 1 to 1½ pioneer companies, as well as a corps artillery brigade of 6 squadrons. At a first glance, one cannot deny a great elasticity to these formations, and it also permits the transfer of strength from one

side to the other without breaking up units. It is doubtful, however, if they will be ultimately adopted in France, as the opinion of military men is opposed to the abolition of the corps artillery entailed by the doing away with the division command. It is, moreover, not known, with regard to the different artillery establishments with brigades, if the larger number of the batteries are precisely at the spot where they are required. Occasionally during these very manœuvres, owing to the soft nature of the soil, the 7.5-cm. Q.F. gun did not prove sufficiently mobile. General Hagron wished, in the advance of the army corps in separate columns, to throw out a mixed brigade as a common advanced guard, which was frequently done with a division in the south-west, which then pushed out flanking columns to a distance of from 7 to 8 kilometres. In the south-east two chasseur battalions were equipped with machine gun groups. In the south-east the first part of the manœuvres consisted of exercises of divisions opposed to one another; the second part was army corps against army corps; whilst the third, the 14th and 15th September, consisted of the operations of an army of 2 army corps, one division of a third following in a second line, as well as a cavalry division, the whole under General Brugère, against a selected infantry and a cavalry division, which, as the rear-guard of a beaten force, was covering its embarkation at Dijon. The forts at Dijon, under whose walls the concluding action was fought, were considered as field works armed with field guns. General Brugère surrounded his enemy by a concentric march and by the concentration of his troops on the battle-field. In the north-west, both the first portions of the operations were of army corps against army corps, the third, the 13th to 15th September, consisted of manœuvres of from one to two mixed brigades of a stronger against one to two mixed brigades of a weaker army corps; the latter were provided, however, with a cavalry division, which had for three days to cover the embarkation of its Army at Dreux.

The training of individual branches of the Service under their commanders was of a much higher character than formerly; the endurance of the troops and their discipline on the march were excellent; the percentage of sick was small. The scouting of the cavalry before a battle was most satisfactory; during the action it was less so. More attention should be paid to the security service. The infantry invariably made good use of the ground during an action, but did not do so well in this respect in advancing to a fight. The effect of the enemy's fire was not taken sufficiently into account. The cavalry occasionally intervened to too great an extent in the action; many of their attacks were, however, altogether opportune. They no longer confined themselves, according to the lessons of the Boer War, to dismounted action, but attacked infantry, and even unbroken infantry. The artillery, influenced by the Russo-Japanese War, concentrated its batteries more than formerly, and worked in masses to its fullest extent, especially in the south-east. The arrangement, direction, and execution of the exercises, as also in regard to the training of the troops, last year's manœuvres in France show a progress whose scope must not be depreciated.—*Précis from the Militär-Wochenblatt.*

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*Organisation and Working of Rifle and Gymnastic Clubs.*—A Ministerial circular of the 21st June last lays down as follows the organisation and working of Rifle and Gymnastic Clubs. These clubs or societies are of 4 kinds, viz.: 1. Purely civilian rifle and gymnastic clubs. 2. Rifle clubs of the Territorial Army. 3. Mixed rifle clubs. 4. Gunnery practice clubs.

1. *Purely civilian rifle and gymnastic clubs* may be formed freely without previous leave being obtained, through the simple agreement of parties concerned. The members are not allowed to wear a uniform or badges similar to those worn in the Army or Navy, or medals which it would be possible to confound with French or foreign decorations or medals of honour. They may not assemble or go out with arms, except with the leave and under the supervision of the military authorities.

2. *Territorial Army rifle clubs* are formed under the patronage of the army corps commanders of that branch of the Service. They are composed, as a rule, of members belonging to the Territorial Army and its Reserve; they may also receive as associates unemployed men and Reservists of the Regular Army.

3. *Mixed rifle clubs* are compulsorily attached to the territorial infantry regiment recruited in the district in which the club operates. Placed under the honorary presidency of the lieutenant-colonel commanding that regiment, they consist of:—*a.* Military members (unemployed and Reservists of the Regular and Territorial Armies). *b.* Civilian members. The formation of these clubs may be carried out after the approval of their statutes by the War Minister; they are under, as regards uniform, badges, medals, assembly and going out under arms, the regulations governing the purely civilian rifle clubs.

4. *Gunnery practice clubs* are composed exclusively of members of the Army; they are under the direct control of the military authorities.

The three first of the above-mentioned clubs may obtain legal status by subscribing to the declaration in the law on contracts. The mixed rifle clubs who subscribe to this declaration, as well as the Territorial Army rifle clubs, enjoy the following advantages:—

1. Loan of arms and delivery of cartridges.
2. Having garrison rifle ranges placed at their disposal.
3. Loan of targets, etc., from corps of the Regular Army.
4. Right to musketry prizes.

The summonses by the Territorial Army rifle clubs and by the mixed rifle clubs to rifle meetings, which are absolutely optional, are made by posters sent out by the headquarters of the War Department. These posters, which are exempt from taxation or stamp, are placarded in the communes by the mayors. Soldiers of all ranks taking part in these meetings are given a free return ticket on the railway. The Departments of War of the Interior grant prizes in kind for the annual meetings of the rifle and gymnastic clubs; but in no case does the War Department allow monetary prizes. Men of the Regular Army who are permitted to take part in these meetings are forbidden to receive monetary prizes. Musketry certificates obtained by young men before they join the Army are noted in their small books. Young men who can satisfy a board of officers that they have acquired a practical knowledge of certain exercises capable of facilitating their military training (marching, riding, musketry, gymnastics, etc.) may be promoted to the rank of corporal or lance-corporal after 4 months' service instead of 6.

Every civilian rifle club may receive a certain number of arms by the previous payment of a guarantee deposit. The number of rifles and the guarantee are fixed at the following:—

- 4 rifles, model 1886, M.93 (20 francs).
- 5 rifles, 11-mm. (8 francs).
- 15 drill rifles (3 francs).

The Territorial Army and the mixed rifle clubs can each receive without payment :—

10 rifles, model 1886, M.93.

10 rifles, model 1874-85 or 1885.

10 rifles or carbines, model 1874, M.80.

4 revolvers, model 1873.

All the different clubs may receive in addition, for the purpose of a meeting and for a maximum period of 2 months, a certain number of supplementary rifles. Finally, all rifle clubs and military preparatory instructional societies of every description may receive on loan arms suitable for drill purposes only. The Territorial Army rifle clubs and the military element of the mixed rifle clubs have a right every year to a certain number of ball cartridges without payment. A charge is made for ammunition supplied to civilian rifle clubs. All cartridge cases, whether delivered free or on payment, must be returned to the Government magazines.

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*Recruiting of Natives in Tonkin and Annam.* — The recruiting of native soldiers at Tonkin, which is carried out since the formation of the 2 Tonkinese rifle regiments according to the Annamite custom and by means of local authorities, having given such excellent results, a decree of the 1st November last organises this method of recruiting in accordance with the regulations of the 15th July, 1889, and the 7th July, 1900, which will be applied to all native soldiers of the Annamite race at Tonkin and Annam. According to the decree, recruiting will be carried out as follows :—

1. By compulsory enlistment.
2. By voluntary engagement.
3. By re-engagement.

The period of active service is fixed at 5 years; at the same time, native soldiers may put in a maximum of 20 years' active service by means of successive re-engagements. The territory of Tonkin and of Annam is divided into recruiting and reserve districts, each attached to a native infantry unit; these districts are settled by order of the Governor-General of Indo-China. Native soldiers of batteries stationed at Tonkin, companies of artificers, engineer units, the cavalry squadron, and cavalry remount squad are recruited from the district in which they are quartered or from the nearest districts. The decree then gives the regulations regarding the distribution of the contingent, recruiting operations, voluntary engagements, re-engagements, and retirements, and the advantages given to soldiers of the Regular Army.

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*Formation of Native Engineer Companies in Indo-China.*—A decree of the 5th November last created native engineer companies in Indo-China, the number of which is determined by agreement between the War Minister and the Colonial Minister. The *personnel* of the French cadre of native engineer companies is detached from the home corps of engineers and selected by the War Minister in accordance with the detailed demands to the latter by the Colonial Minister. It is then seconded and comes under the same regulations in force for the Colonial troops as regards period of Colonial service. The natives are recruited according to the same regulations in force for the riflemen of the native regiments of the Colony where the companies are formed. The pay of the officers and of the *personnel* of the French cadre is the same as fixed for soldiers of the

same rank of the Colonial artillery. The soldiers of the Indo-China native engineer companies are under the same laws, regulations, and decrees, as regards promotion, rewards, discipline, and military jurisdiction, in force for the native troops. The French cadre retains the uniform of its branch of the Service, and uses, in addition, uniforms laid down by Colonial regulations for Colonial troops, with a distinctive badge. The armament of Indo-China native engineers is the same as that of the native riflemen of the Colony. When two or several native companies are in garrison in the same Colony (Cochin-China or Tonkin) a field officer of engineers may be detailed to exercise the functions of commanding officer for these units as regards discipline and training. According to a table attached to the decree, the Indo-China native engineer company consists of 1 captain, 2 lieutenants or sub-lieutenants, 16 men of the French cadre, and 124 natives, or altogether 3 officers and 140 men.

*Native Reserves of Indo-China.*—The JOURNAL for December, 1903, gave the organisation of the native Colonial Reserves as defined by the law of the 7th July, 1900, and that laid down for Madagascar by the decree of the 19th September, 1903. The military organisation of Indo-China has recently been defined by a decree of the 1st November last. The following are the principal dispositions of that decree :—

The native military Reserves of Indo-China are divided into two lists :—

1. The Reserve of the Regular Army.
2. The sedentary guard, who are eventually charged with the guarding of garrisons and of the lines of communication.

All native soldiers belong to the Reserve of the Regular Army during a period equal to the difference between 15 years and the duration of their effective service. All native soldiers belong to the sedentary guard during 5 years, and on the expiration of their service in the Reserve of the Regular Army. Batteries of artillery, companies of artificers, engineer units, cavalry squadron, remount squad, and infantry units draw their reserves from the same districts as their recruits. Complete or partial mobilisation, the calling to the colours one or more classes of Reserves, and the calling out for training periods are all carried out by order of the Governor-General. In all these cases Reservists and sedentary guards are under the same general regulations as regards Reserves. The sedentary guards are, however, not obliged to come out for any period of training. They may only be called out for check roll-calls. The date and the period of training for Reservists is fixed by the Governor-General. The period may not exceed a fortnight. During their period with the colours, both in peace and war, Reservists and sedentary guards are subject to military regulations, and can be tried by military tribunals. Details of the organisation and administration of the native Reservists of Indo-China, the advantages they obtain, and the settlement of the classes to which the decree is applied, will form the subject of a proclamation by the Governor-General of Indo-China.

*Recruiting of Natives and Organisation of Native Reserves in French West Africa.*—It has been seen in the preceding notes that in order to make the military organisation of the Colonies of Madagascar and Indo-China conform to the 18th Article of the Law of the 7th July, 1900, decrees were issued organising the native reserves in those colonies.

In a report recently addressed to the President of the French Republic, the Minister of War observes that the time appears to have arrived to

proceed with that organisation in French West Africa, and that, further, the decrees which at present regulate the recruiting of natives in that colony might advantageously be revised and reconstituted. In consequence of this report the President of the Republic issued, on the 14th November last, a decree regulating these organisations. The following are the chief dispositions of the decree :—

*Recruiting.*—The recruiting of corps and departments open to natives of French West Africa is carried out by means of :—

1. Voluntary engagements of 2 or 4 years.
2. Re-engagements of 1, 2 or 3 years.

Voluntary engagements and re-engagements are entitled to bounties. Re-engagements also carry with them a high rate of daily pay, according to seniority. Native sergeants may become entitled to commissions after 15 and up to 25 years' service. Native corporals, lance-corporals, and privates cannot remain with the colours, with certain exceptions, after 15 years' service. Corps and departments are chiefly recruited by means of voluntary engagements for 4 years. The number of the 2 years' enlistments is determined every year by the Governor-General. Recruiting areas will be formed in West Africa, by local authority, where enlistments and, exceptionally, re-engagements of old discharged soldiers will be received by recruiting officers. Men enlisting voluntarily or re-engaging, may, under all circumstances, be liable to prolong their services outside West Africa. An allowance of two months' pay is given to natives called upon to serve outside West Africa. Native soldiers are entitled to a retiring pension after 25 years' service, and to a modified retiring pension after 15 years' service. Native officers are entitled to a retiring pension after 25 years' service. A native adjutant has been appointed to each brigade division of the 6th Colonial Artillery Regiment. Appointments to the rank of adjutant are made by the officer commanding the troops. Native officers continue to be appointed by decree of the President of the Republic.

*Reserves.*—The West African territory is divided into a certain number of reserve areas. The native reserves consist of :—

1. Native soldiers retired for length of service.
2. Native soldiers who have completed the term of engagement for which they enlisted or re-engaged.
3. Natives aged from a minimum of 20 to a maximum of 30 years, classified by the recruiting officers as in the list of auxiliary reservists.

The period of service in the reserve is 5 years for pensioned native soldiers, and for the auxiliary reservists; for unpensioned soldiers it is so regulated that their total period of service in the regular army and in the reserve amounts to 15 years. During their service in the reserve native soldiers may be called to the colours by authority of the Governor-General :—

1. In the event of general mobilisation.
2. In the event of partial mobilisation for operations either in or outside West Africa.
3. For drill periods or for muster.

During their stay with the colours, all native reservists are under military regulations; they may be tried by military tribunals, and are entitled to all allowances granted by the regulations.—*Revue Militaire des Armées Etrangères* and *Revue du Cercle Militaire*.

GERMANY.—*Recruiting Statistics for 1903.*—The number of young men attaining the age for military service amounted to 473,026. By adding those put back from 1902 (316,246) and from 1901 (247,499) and from the previous classes (36,048), the total of 1,072,819 men is obtained as the entire resources of the recruiting operations. The classification was made as follows :—

	Men.
Unfit for service - - - - -	41,828
Debarred from service - - - - -	1,167
Put back, emigrants, etc. - - - - -	601,455
Enrolled in Territorial Army { Combatant branches (a)	203,913
{ Non-combatant „ (b)	3,670
Enrolled in the Navy - - - - -	7,201
Assigned to recruiting reserve { of the Army - - - - -	79,452
{ of the Navy - - - - -	1,320
Attached to 1st Levy of the Landsturm - - - - -	96,375
Young men fit in excess - - - - -	5,960
Voluntary enlistments in the Army (c) - - - - -	28,769 <sup>1</sup>
Navy - - - - -	1,709 <sup>1</sup>
Total - - - - -	1,072,819

The number of young men who enlisted in the Army before reaching the age for military service amounted to 20,457.<sup>1</sup> By the addition of these numbers to those under the figures *a*, *b*, and *c*, it will be found that a total contingent of 256,809 men were enrolled during the year 1903. The recruiting resources for 1903 appear, at first sight, considerably lower than those of preceding years, viz. : 1,610,741 in 1902 and 1,618,612 in 1901, but this decrease is only apparent; it arises from the different methods in which the recruiting statistics for 1903 were drawn up. In preceding years the district registers contained the names of all young men of the age for military service, who were born or who lived in the district, and in consequence young men might be borne on several different registers. In 1902 the registers only contained the names of young men born in the district or abroad. In addition, those failing to appear, amounting to 129,728 in 1902, no longer appear in the recruiting statistics.

*Machine Gun Detachments.*—A decision of the 1st September last definitely adopted the “Draft of Machine Gun Drill Regulations” in use since the 14th May, 1902. As the *Militär Zeitung* very rightly observes, the machine gun is being proved, practically for the first time, on the battle-fields of the Far East, and appears to have played an important part on numerous occasions. It is, therefore, of interest to note these regulations recently adopted by the Germans with slight modifications.

As regards regulations on firing, tried experimentally and modified at the same time as the Drill Regulations, they still remain in the rough. The changes introduced into the Drill Regulations are merely on matters of detail; the working of the gun and the drill have been simplified. The strength of the detachment has been augmented by 1 battery wagon.

As regards the employment of machine guns in action, the Regulations lay down more plainly that machine guns should avoid fighting hostile machine guns; that, they say, is a bad use of the capabilities of that arm; action against other arms should be the rule. The Regulations

<sup>1</sup> In these numbers one-year Volunteers are included.

lay down the necessity for permanently attaching some mounted men to them for scouting purposes. They finally insist on the importance of a minute reconnaissance of positions. Efforts should be made to completely occupy them unknown to the enemy, and to avoid positions which have been already under his fire. The reconnaissance must always be made personally by the commander of the detachment without the previous sending out of scouts. In a word, endeavours should be made to completely obtain the result of a surprise, which may, once realised, last for some time if the machine guns are well posted.

The Regulations on firing have had some important changes made in them, but, as has been already stated, are not of a very definite nature. They establish a distinction between "aiming for elevation" and "direct aiming." They still distinguish between "firing in gusts" and "continuous fire." The former is used beforehand as trial volleys to find out the elevation, and also, in exceptional cases, against certain objects difficult to discern, such as intersected ground and at long ranges. Fire may be directed on a certain point of the object, with fixed aim, or scattered methodically in height or in depth. Dispersion is ordinarily obtained by directing the gun with the hand, by a slow movement, on the various parts of the target. In certain cases, if observation is very easy, it is possible, the gun being once laid, to observe the results of the elevation and direction without aiming by means of the apparatus for that purpose. In a word, the new draft of the firing regulations gives more latitude to the employment of the various kinds of fire; it insists on the importance of a good appreciation of distances. The firing is, as a rule, carried out with one elevation. In certain cases two, and exceptionally three, may be employed. The regulation does not precisely define how the firing should be distributed as regards the front. Finally, the annual supply of ammunition remains fixed, for each machine gun detachment, at 100,000 ball cartridges, 60,000 of which must be used for field firing, and 100,000 blank cartridges, of which 30,000 must be used for instructional purposes.

There are at present 17 machine gun detachments in the German Army, viz., 13 Prussian, 2 of which are Guards; 2 Bavarian; and 2 Saxon.—*Bulletin de la Presse et de la Bibliographie Militaires and Revue Militaire des Armées Etrangères.*

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## WAR NOTES.

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Very heavy fighting, in blinding snow-storms and at 16° below freezing, took place on the Sha-ho between the Japanese and Russian Armies from the 25th to the 29th January last. From the various reports to hand it would appear that a number of quite independent actions occurred, which were initiated on the 25th January last by a general forward movement of the Russian right wing. Success appears to have inclined first to one side and then to the other, and it is difficult to follow the operations in detail, as names of places are mentioned in both Japanese and Russian official reports which are not to be found on any map. The sequence of events appears, however, to have been somewhat as follows:—

The Japanese seem to have been in a great measure taken by surprise at the first Russian advance against their left wing, under General Grippenbergh, on the 25th January, as the Russians were able to seize Hudsigute, Chi-tai-tse, Namykai, Kailotoga, and Shueyautau, in the neighbourhood of San-de-pu, but were unable to take the last-named place. On the 26th and 27th the Russians therefore continued their attacks on San-de-pu, which could, however, be only partially taken, and owing to its stubborn defence by a Japanese detachment had eventually to be abandoned by the Russians. Russian cavalry was pushed down to the south and came into contact with the enemy about 10 versts south of San-de-pu and at 30 versts from Koua-jen-san. On the 26th January the Japanese were in possession of Chen-chieh-pau, Liu-tiao-kau, and Li-kia-jo-peng, as well as of Sakhpao, and on the 27th repulsed a Russian attack on Hai-kau-tai. On the 27th the Russians attacked Sa-ehrpau and Paotsia; the attack lasted the entire day, and towards night Sa-ehrpau was taken. On the evening of the 28th January the Japanese took the offensive along the railway and the Mandarin road, with the result that the Russians were forced once more to retire across the Hun-ho. All these fights were most sanguinary; according to official reports the Japanese losses, in killed and wounded, amounted to 7,000, and the Russian to 13,000 men. These losses will probably be found to be far greater. On the Russian side both General Kondratovitch and General Mishtchenko were wounded. What the object of this partial Russian offensive movement was is not quite clear, but the Japanese official reports leave no room for doubt that it has resulted in complete failure. Marshal Oyama reports that the Russian attacks were all repulsed, and that the Japanese successfully carried out a forward movement, whilst General Kuropatkin admits that the assault on San-de-pu failed, and that the Japanese assumed the offensive, and adds that after being reinforced the Russians "began to retire." Desultory fighting appears to be still going on along the entire line of the hostile hosts.

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## NAVAL AND MILITARY CALENDAR.

JANUARY, 1905.

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- 1st (S.) H.M.S. "Grafton" arrived at Portsmouth from Pacific.  
 " " H.M.S. "Fearless" arrived at Portsmouth from China.  
 " " The Japanese at Port Arthur occupied H. fort and captured Pan-lung-shan.  
 " " General Stössel proposed to surrender Port Arthur to General Nogi.  
 2nd (M.) H.M.S. "Indefatigable" paid off at Portsmouth.  
 " " General Nogi accepted General Stössel's proposal to surrender, the following being the Japanese terms: Russian officers allowed parole; N.C.O.'s and men to be prisoners of war. The Russian garrison of Port Arthur consisted of 22,434 soldiers, 4,500 sailors and 4,125 non-combatants. There were also 15,000 sick and wounded in hospital.  
 5th (Th.) H.M.S. "Bulwark" left Devonport for Mediterranean.  
 " " An Army Order was published on Army Reorganisation.  
 " " The Russian garrison marched out of Port Arthur with the honours of war.

- 8th (S.) The Japanese troops entered Port Arthur.
- 11th (W.) Great Britain rejected the Porte's proposals regarding the Aden Hinterland.
- " " The Russian Cavalry, under General Mishtchenko, made an unsuccessful raid on Newchwang.
- 12th (Th.) General Nogi reported that the Japanese spoils at Port Arthur included 39 permanent forts, 546 guns, 82,670 shells, 30 tons of ammunition, 4 battle-ships, 2 cruisers, and 14 gunboats and destroyers.
- 13th (F.) Tribal fighting occurred on the Indian North-West Frontier. A British column was moved up.
- " " Russia sent a Note to the Powers complaining of alleged breaches of Chinese neutrality.
- 16th (M.) H.M.S. "Flora," from Pacific, paid off at Devonport.
- 17th (Tu.) 2nd Bn. Border Regiment arrived in South Africa from India in the "Avoca."
- 19th (Th.) 1st Bn. Royal Fusiliers arrived in England from India in the "Soudan."
- " " An alleged attempt was made on the life of the Emperor of Russia, after the ceremony of blessing the Waters of the Neva. One gun discharged in salute being loaded with case shot instead of blank cartridge.
- 22nd (S.) 11th Brig. Royal Field Artillery } left South Africa for India in the  
1st Bn. Royal Irish Regiment } "Avoca."
- 25th (W.) Fighting re-commenced in Manchuria, on the Sha-ho.
- 28th (Sat.) The Russian advance near Lita-jeu-tan, Chen-chieh-pau and Hai-kau tai, on the Hun ho, was checked with heavy loss, their centre being pierced. Generals Mishtchenko and Kondratovitch were wounded. The Russian casualties were estimated at 13,000, and the Japanese at 7,000.
- " " A further Blue Book was issued on the operations in Thibet.
- 31st (Tu.) The Japanese Government issued a reply to the Russian Note regarding alleged breaches of Chinese neutrality.

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## FOREIGN PERIODICALS.

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### NAVAL.

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AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*. No. 2. Pola : February, 1905.—"Observations on the Russo-Japanese War" (continued). "Line Ahead in Action against Line Ahead" (concluded). "The Effect of Capped Armour-Piercing Shells." "Launch of the German Battle-ship 'Deutschland.'" "Foreign Naval Notes."

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Geometry." Letter to the Director:—"Crews and Skill." "Foreign Naval Notes."

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*Revue d'Artillerie.* Paris: January, 1905.—"Theory of Displacement Gun Carriages with Elastic Band and Trail-Spade." "Organisation and Drill Regulations of the Japanese Artillery." "A Russian Machine Gun Company at the Battle of Liao-yang."

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*Neue Militärische Blätter.* Berlin: December, 1904. No. 26.—"Theoretical Training of our Officers." "Our Promotions." "Strategic Importance of Egypt and the Red Sea" (concluded). "Military Intelligence."

January, 1905. No. 1.—"Retrospect of the Russo-Japanese War." "The Military Year 1904." "Military Events of the Week." "Tactical Examples." "Horse Purchase by Officers." "Military Intelligence."

ITALY.—*Rivista di Artiglieria e Genio.* Rome: December, 1904. — Has not yet been received.

*Rivista Militare Italiana.* Rome: January, 1905.—"The Military Problem." "The Austrian Account of the Battle of San Martino." "Our Preparation for War in View of the Exigencies of Modern Fighting." "The Russo-Japanese War." "The English Expedition to Thibet." "Foreign Military Notes."

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RUSSIA. — *Voïennyi Sbornik.* St. Petersburg: November, 1904. — "Prince Eugène Napoléon Beauharnais at the Head of the Grand Army" (*continued*). "Letters by an Eye-witness of the War of 1854-55." "From Zaravchan to Tach-Kepri" (*continued*). "Notes on the French Army" (*continued*). "On the Transport of Horses by Artificial Lines of Communication." "The Present Value, Organisation, and Application of Temporary Fortifications" (*concluded*). "Corporal Punishments in the Army and their Abolition" (*continued*). "Care of Sick and Wounded in War." "Field Diary" (*continued*). "On the Frontiers of Afghanistan" (*continued*). "The War with Japan." "Changes in the English Army."

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## NOTICES OF BOOKS.

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*La Campagne de 1805 en Allemagne.* Par P. C. ALOMBERT, Contrôleur de l'Administration de l'Armée, et J. COLIN, Capitaine d'Artillerie à la Section Historique de l'Etat-Major de l'Armée. Paris: R. Chapelot et Cie., 30, Rue et Passage Dauphine. 1902.

In previous numbers of the JOURNAL we have called attention to the series of volumes now being issued by the Military History Section of the French General Staff and indicated the surpassing interest of these works to all serious students of the Art of War. The volumes now before us, dealing with the commencement of the campaign of 1805, from the departure from Boulogne to the concentration on the Danube, do not fall behind their predecessors in any respect. In the former we saw the Revolutionary Armies being welded together. In the present one we see the finished instrument of war at work for the first time; but—one is bound to admit it—the degree of finish fell far behind the standard of the present day.

Indeed, one is surprised to find how rough and ready things really were, even in this model Grand Army, and we warmly recommend those who are inclined to believe that war can only be successfully made by ideally appointed armies, to look closely into these introductory chapters and see with what very imperfect machinery a really great commander can contrive to get along.

So far we refer only to his great concentration marches which brought him in contact with the enemy—not to the fighting—and we submit that only a Napoleon could have brought such an Army to the Danube in the same time. Any lesser man would have broken down under the accretion of impediment at an early date.

Rapozeira and Infante Don Manuel Batteries." "The Construction of Houses at Lovito (Angola)." "General Report of the Works Carried out in 1903-04." "Field Fortification according to General Dupommier." "A General View of the Calcareous Matter used in the Construction of Lisbon." "German Views as to the Use of Wireless Telegraphy in Land Wars." "Military Notes."

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RUSSIA. — *Voïennyi Sbornik.* St. Petersburg: November, 1904. — "Prince Eugène Napoléon Beauharnais at the Head of the Grand Army" (continued). "Letters by an Eye-witness of the War of 1851-55." "From Zaravchan to Tach-Kepri" (continued). "Notes on the French Army" (continued). "On the Transport of Horses by Artificial Lines of Communication." "The Present Value, Organisation, and Application of Temporary Fortifications" (concluded). "Corporal Punishments in the Army and their Abolition" (continued). "Care of Sick and Wounded in War." "Field Diary" (continued). "On the Frontiers of Afghanistan" (continued). "The War with Japan." "Changes in the English Army."

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"Shall Subordinate Officers learn Business of Generals." "Five Years a Dragoon" (*continued*). "The Organisation of a Scout and Sharp-Shooter Corps." "An Umpire at the Army Manœuvres." "A Reserve Force." "Remounts." "A Modification of the Detail System." "The Use of the Bicycle in the Army." "Suggestions to Young Officers." "The Fourth Cavalry with General Lawton in Luxon." "Filipino Labour." "Surra." "Tactical Problems and their Solutions." "Military Notes." "Reprints and Translations."

*Journal of the United States Infantry Association.* Washington: January, 1905.—"The Japanese Infantry Attack." "The Rod-Bayonet." "The Use of Regulars during Civil Disorders." "Management of Company in the National Guard." "An Extemporised Moving Target." "Colonel Pullman's Pack." "The British Thibetan Expedition." "Infantry Fire." "Comment on 'Physical Training in the Army.'" "Reprints and Translations."

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## NOTICES OF BOOKS.

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*La Campagne de 1805 en Allemagne.* Par P. C. ALOMBERT, Contrôleur de l'Administration de l'Armée, et J. COLIN, Capitaine d'Artillerie à la Section Historique de l'Etat-Major de l'Armée. Paris: R. Chapelot et Cie., 30, Rue et Passage Dauphine. 1902.

In previous numbers of the JOURNAL we have called attention to the series of volumes now being issued by the Military History Section of the French General Staff and indicated the surpassing interest of these works to all serious students of the Art of War. The volumes now before us, dealing with the commencement of the campaign of 1805, from the departure from Boulogne to the concentration on the Danube, do not fall behind their predecessors in any respect. In the former we saw the Revolutionary Armies being welded together. In the present one we see the finished instrument of war at work for the first time; but—one is bound to admit it—the degree of finish fell far behind the standard of the present day.

Indeed, one is surprised to find how rough and ready things really were, even in this model Grand Army, and we warmly recommend those who are inclined to believe that war can only be successfully made by ideally appointed armies, to look closely into these introductory chapters and see with what very imperfect machinery a really great commander can contrive to get along.

So far we refer only to his great concentration marches which brought him in contact with the enemy—not to the fighting—and we submit that only a Napoleon could have brought such an Army to the Danube in the same time. Any lesser man would have broken down under the accretion of impediment at an early date.

We lay special stress on this point because this campaign in particular has been the *cheval de bataille* of innumerable strategic disquisitions, all of which find in it the steadfast execution of a predetermined purpose from the very outset.

Actually no view could be further from the facts. There was no "Plan of Campaign," and Napoleon shaped the course of his marches precisely as information and occasion required.

That war with Austria was an alternative to the descent on England, and as such had been kept in view for months previously is clearly shown by one of his letters to the Prussian Ambassador Lucchesini, dated 27th November, 1803, in which, whilst pointing out how detrimental to French interests it would be to consent to the neutrality of the Southern German States, for which Russia was pleading, he says: "It is on the road from Strasburg to Vienna that the French must force peace on Austria (if necessary understood) and it is this road that you wish us to renounce"—and to this idea he clung all along till, having set his troops in motion on the 25th August, 1805, in the expectation of reaching the Inn before the Austrians, news reached him on the 26th August which pointed to the possibility of the preparations of the latter being far more advanced than he had supposed, and led him to transfer the weight of his attack more to the left than he had at first intended.

In the first scheme for "Strategical Deployment," based on the information then to hand, it was anticipated that Bavaria could be occupied and covered before the Austrians could mobilise, and his ruling idea was an advance on as broad a front as possible beyond the line Wurtzburg—Ulm, both of which he counted on reaching without opposition, and this would bring him by the shortest roads in the least time on a front strictly parallel with his opponents. There is here no vestige of a notion of the advantage of a "re-entering base," over which successive generations of Staff College students have stumbled.

His information about Wurtzburg was extremely inadequate, for it was not till the 16th September that he sent an officer, "Dessalles," to that place to find out whether the Main was navigable and how many days it required to work up the stream from Mayence, and some days later only that he learnt, that even when the weather was favourable it usually took from eight to ten days to make the transit—but that the water would be at its worst within a fortnight.

It is probably the presence of Bernadotte's corps of some 24,000 men in Hanover which has led to this conception of a friendly North Germany and a secure line of supply throughout to Wurtzburg and Bamberg. Strictly speaking no doubt North Germany was neutral, but the French were most unpopular, and Bernadotte's position so far from being an element of strength was really one of weakness, which he himself so thoroughly realised that instead of marching by the direct route from Göttingen due south to Wurtzburg, he actually set out nearly due west and then turned south down the valley of the Nidda until within a few miles of Frankfurt, where he was turned off into the Hanau-Aschaffenburg road which should have been exclusively reserved for Davoust, so that even the slight advantage to the French due to the Göttingen position was sacrificed at the very outset, and Bernadotte's troops, though actually punctual in their arrival at Wurtzburg, were so done up by excessive marching that they required some three days' rest before resuming their march. The rapid marching had told on all the troops. There had been a good deal of desertion coming through France, and the cavalry and mounted men unable to forage at their will, as in an enemy's country, had suffered

much. Marmont's corps, coming up the Rhine valley from Holland, was below its establishment of horses all round, and had to make up by purchase from the not very friendly Rhine Princelets along their road.

By the time the line of the Rhine had been attained, the presence of the Austrians had been fully disclosed, though of course not their fatal resolution to stand to be surrounded at Ulm, and from thence onward the campaign was regulated by the ordinary common-sense methods, the different corps moving within supporting distance in force sufficient to defeat any attack of the enemy. As there were barely 80,000 of the latter against 240,000 of the former, this was hardly a task to strain the strategic genius of Napoleon. It is conceivable that half-a-dozen Staff College students could play the matter out as a war game to any umpire's satisfaction, but the personal factor involved in dealing with the French marshals called for all Napoleon's tact, and his letters and orders throughout this period deserve the closest attention. Human nature in all ages remains the soldier's greatest problem, and it is not once in many centuries that one finds that harmonious co-operation of all ranks which von Verdy assures us existed within the German Head-Quarter Staff (but head-quarters only) in 1870.

In conclusion, a few notes as to the actual composition of the "Grand Army" may be of interest. The name was assigned to it by a special order of the Emperor, dated 26th August, 1805.

The camps at Boulogne contained 50,338 men out of 115,582 who had previously seen service, but these were distributed very unevenly amongst the units, the sappers coming first with 77 per cent., then the light cavalry and the infantry averaging 42.5.

The inspection returns of the year XIII give the numbers of men over 10 years of service. Again the proportions vary immensely from the 17th Line and 13th Light Infantry with 918 out of 951, and 540 out of 569, down to the celebrated 14th Line, the regiment that died to the last man at Eylau two years afterwards, 267 out of 741. Generally 25 per cent. of the army had fought all through the campaigns of the Republic; a second quarter had been through Marengo and Hohenlinden, and the remainder had been incorporated since 1801. Nearly all the officers and non-commissioned officers had seen service, and in each regiment there were still some sturdy survivors of the old Royal Army, some with 40 years' service with the colours. The Hussars had retained their old traditions, they had received very few conscripts, but had kept up their numbers by voluntary enlistment generally from Alsatians and other German families. One half the officers were quite illiterate, and many did not even know the words of command in French. Marbot's description, written of 1799, is still accurate in 1805:—"The other arms have become more republican, particularly the infantry, who seem to have been a pretty rough lot, and to have harassed their recruits in unmerciful fashion. Hence desertion is pretty rife: 5 to 8 per cent. per annum. The old soldiers also desert freely, but this seems to have been merely a republican way of taking furlough, as they rejoin almost entirely after a few months' absence. Evidently, the punishment must have been merely nominal. The complaints against the want of physical development in the recruits are ceaseless, yet at that time the strain on the population was by no means excessive, though it afterwards became so.

"The composition of the corps of officers present with the Grand Army is of particular interest. The total number was 5,000. Of these about 100 came from the new officers' school at Fontainebleau, aged from 17 to 21. 500 to 600 from the original volunteers, or from the conscripts

raised since 1795. These are mostly picked men, selected for their general standard of instruction and social position like "de Fezensac," or for distinguished conduct in action, as "Dulong" commanding a battalion at 25; but mostly they are still lieutenants in 1805.

"In spite of this element of youth in the cadres, the average age of the sub-lieutenants is still 32, and those of the lieutenants 37, whilst those of the captains and superior officers is only 39; and there are more than 90 lieutenants over 50 years of age, and 4 over 60. Men were already beginning to grumble in the Grand Army, and it looks as if a few years more of peace would have destroyed it.

"This is not its only fault. It is very poorly trained to manœuvre, almost all the professional officers of the old Royal Army have disappeared, and the few who remain have attained high rank, whence they exercise little influence on the instruction of the men," and drill has become exceedingly neglected. The recruits were supposed to be drilled at the dépôts, but, as usual, all the most infirm and useless officers had been relegated to those positions, and their instruction appears to have been almost nil. The cavalry were poorly mounted, and only here and there is an officer mentioned as showing keenness of knowledge of equitation, showing how low the standard had sunk since the old days.

"The artillery and engineers had suffered least from the Revolution, and the former remained to the last the *élite* of the Army, but the engineers as a body seem mostly to have been about the standard of our military foremen of works."

The analysis of the ages and service of the 141 general officers is very interesting—unfortunately too long to give in *extenso* here. They vary from one of 29 years of age to one of 58, but the mean appears to be about 40. One quarter had served as officers of the old Army, one quarter in its ranks, and the last quarter came from the levies subsequent to 1791.

The pages relating to the organisation and duties of the Staff also are of the utmost interest; but again too long for reproduction, and, as regards its *personnel*, the matter is summed up in the following lines, which we fancy will provoke the astonishment of our readers, but which will go far to explain many of the unaccountable lapses in French Staff service, which from time to time paralysed momentarily even its best chiefs:—

*"En résumé, les aides-de-camp sont choisis par les officiers généraux parmi les officiers les plus braves de l'Armée; mais les états-majors comprennent, à côté d'un certain nombre d'excellents militaires, tous les sujets qui n'ont pu faire leurs preuves dans la troupe, ceux qui ne peuvent ou ne veulent pas y servir, et notamment les émigrés repentis qui reparaissent depuis le Directoire."*

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